HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

Nov., 1934

Prenatal Care

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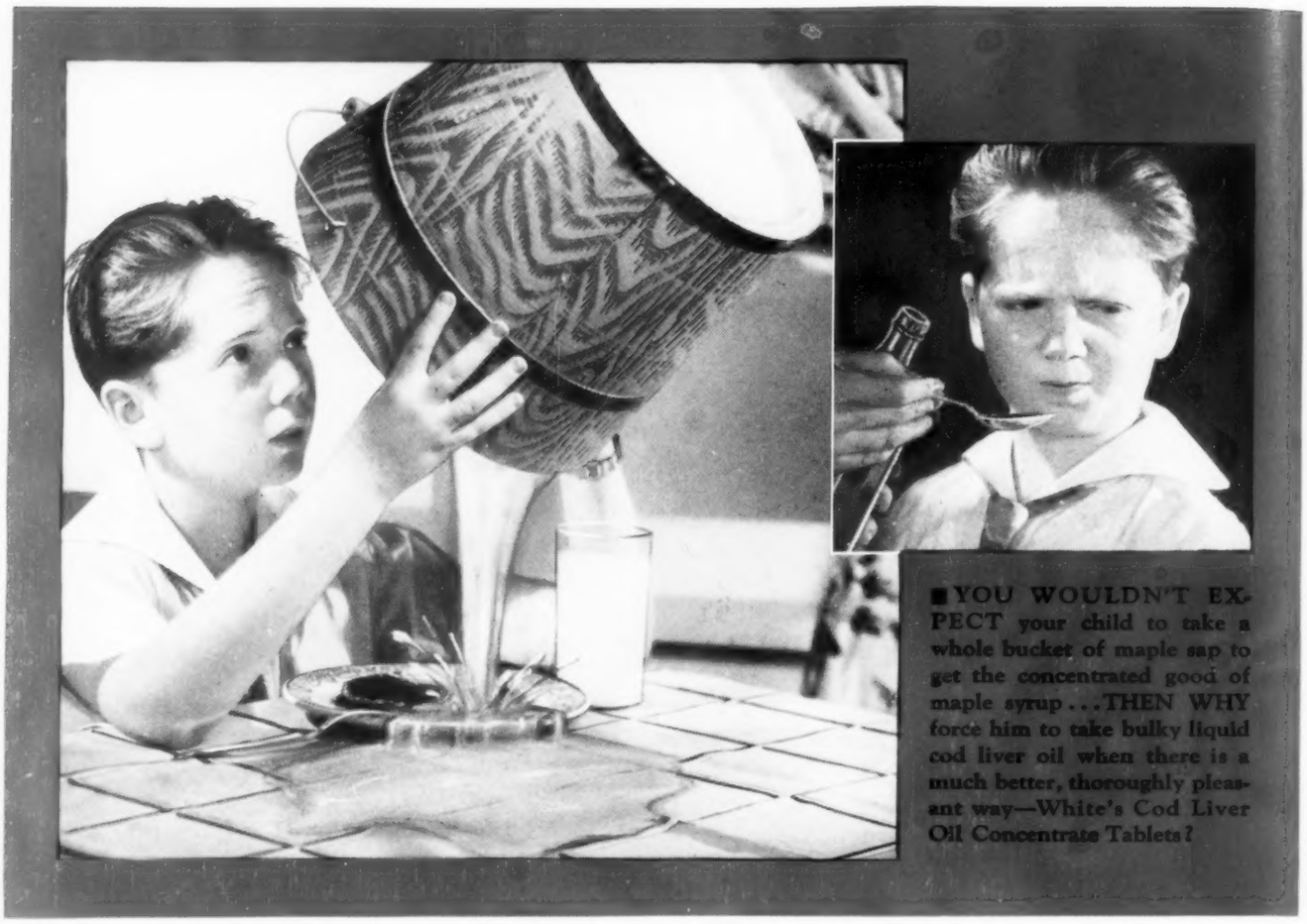
Local Anesthesia



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HYGEIA•

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CONTRIBUTORS TO THIS ISSUE

● JAMES A. TOBEY, DR. P.H., contributes another article on famous victims of disease. His paper entitled, "Some Famous Victims of Smallpox," appeared in the July issue of HYGEIA. . . . DR. JAMES E. LEBENSOHN, whose article "The Mysteries of Vision" appeared in the January issue, commemorates the fiftieth anniversary of the discovery of the anesthetic action of cocaine. . . . DR. MAURICE F. LAUTMAN is director of a hospital department for the study of arthritis.

● DR. EDWARD LYMAN CORNELL is assistant professor of obstetrics, Northwestern University Medical School. . . . F. F. SMITH, D.M.D., is the author of several previous HYGEIA articles; among them are "Open Wider, Please," and "What Shall a Man Believe?" . . . FLORENCE HARBAUGH DIAMOND, a housewife who has solved the problem of preparing tempting meals for a husband with diabetes, shares her discoveries and recipes with HYGEIA readers.

● DR. I. NEWTON KUGELMASS is a prolific writer on health subjects. . . . DR. CLAUDE LILLINGSTON discusses the habits of that historically important parasite, the body louse. . . . ANNETTE FISKE, R.N., discloses interesting facts concerning industrial poisoning and occupational disease.

● MARION WEFER, R.N., contributes a sympathetic discussion of the doctors who people the works of Dickens. . . . MARY C. BROWN, whose articles on cookery have appeared frequently in HYGEIA, turns her attention to the problem of popularizing vegetables. . . . LENA DIXON DIETZ, R.N., gives helpful hints on a perplexing problem in "Amusing Quarantined Children."

● DR. HYMAN COHEN continues "The Eye Book" with a chapter on eyeglasses. . . . W. M. GARDNER, D.D.S., concludes his series of articles on mouth care. . . . ELLEN GRINDELL, whose article, "If Your Child Is Afraid of Dogs," appeared in the August issue of HYGEIA, considers another problem, "If Your Child Is Overweight."

● ROBERT H. BROTMAN, D.D.S., completes "Dental Dens," an exposé of dental quackery. . . . DORIS W. MCCRAY, food consultant, discusses the meats that have been accepted by the American Medical Association's Committee on Foods.

● Another of the adventures of Ambrose O'Pshaw, Detective, is recorded by NELLIE G. HERRIMAN.

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NOVEMBER 1934

Foot Twisting and Faith Healing

THE HISTORY of healing is full of records of manipulations and devices of various kinds which are planned to reinforce the power of suggestion. For example, there was the use of a knotted string by Emile Coué who caused the patients to say to themselves, "Every day in every way I am getting better and better," as they manipulated the knots on the string. There was Valentine Zeileis in Gallspach, Austria, who pointed a tube with a colored light at the patient while suggesting that pain would be relieved and illness would depart. There was Albert Abrams who used a weird machine with dials and depended on the dials to cause the patient to think that something was being accomplished. There was Fitzgerald who developed zone therapy, putting little wire rings around the toes and fingers to distract the attention from pains elsewhere in the body. More recently this system has been transmuted so as to encourage the sale of "Toe-Ties" which are promoted through department stores.

From the point of view of healing by the laying on of hands, the history of medicine is full of records going back to times almost prehistoric. We know that the Mesmerists pointed iron rods at their patients in order to throw them into the suggestible state. The famous Elisha Perkins had a similar technic in his Perkins' tractor. Phineas Parkhurst Quimby developed a rubbing technic in which the left hand rubbed the abdomen and the right hand the top of the head for diseases in the upper part of the body, the hands being reversed when the disease was lower down. Mary Morse Baker Glover Patterson Eddy "healed" by the mind alone, but it is reported that Aimee Semple McPherson Hutton helps out her "healing" by the laying on of hands.

OSTEOPATHY began by adjusting bones in the spine and developed into a low grade of medical practice, but chiropractic took over when osteopathy moved on, and these charlatans still attempt to heal all diseases by pushing buttons in the back.

The newest development is Mahlon Locke of Canada who offers to heal arthritis and crippling of various types by twisting the bones of the feet. He has been largely promoted by the Hearst newspapers

EDITORIAL

and magazines. Some years ago Rex Beach helped him on his career of quackdom by a leading article in the *Cosmopolitan* magazine, and a more recent issue of that magazine gives a new impetus to the Locke system. A motion picture in which Locke is shown twisting feet at a dollar a twist, cash in advance, is being sent around the country for exhibition in various department stores. Long lines of patients come to him from radiating paths to put their feet trustingly in his lap while they convince themselves that they are being benefited.

THE DEPARTMENT stores would no doubt hesitate to devote space to this glorification of foot twisting were it not for the fact that a great shoe industry has been built up on the basis of the Locke claims. Even such ethical institutions as Marshall Field's in Chicago and Simpson's in Toronto have given space for this partnership with quackery in the sale of shoes.

Enough has been learned about the mechanism of the bones and the joints, the nerves and the blood vessels, to make it quite certain that no twisting of the foot will adequately control any type of arthritis involving the joints and bringing about permanent disability. It is a well established fact that patients with chronic rheumatic disorders are constantly seeking quick cures and that the natural remissions in the disease make them particularly liable to become victims of all sorts of queer methods. The few who seem to be benefited at the time when they take the treatment are loud in their praises of the method that has been used. Those who fail to be benefited limp wearily home reflecting on the money that they have wasted and saving their faces by keeping quiet as to the results.

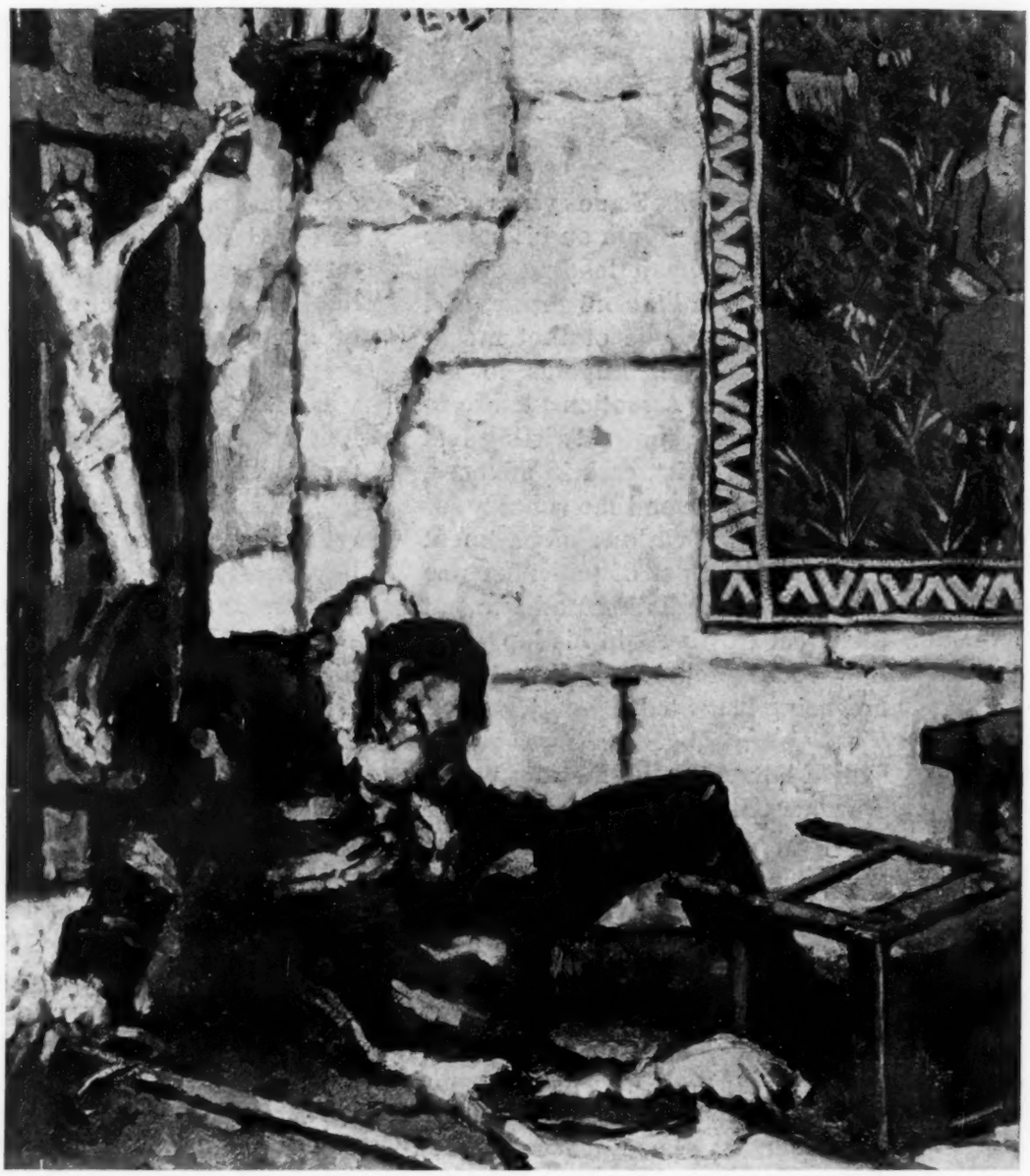
Thus Mahlon Locke and his technic are not new in the history of charlatanism. Such apostles of healing come and go. They leave behind them a trail of devastated humanity which has given them money that might have been used in securing such relief as competent physical therapy and scientific medicine have to offer. The profits, if one is to believe what one sees in the motion picture of Mahlon Locke and what is known of the accumulations of Albert Abrams and John R. Brinkley, are probably sufficient to salve any kind of conscience that salves easily.

AS ONE witnesses the long lines of tourists who have made the trek to Williamsburg, Ontario, in search of magic which is only in the mind, one thinks of that laughing motto of the great god Puck: "What fools these mortals be."

TUBERCULOSIS and the KINGS

By

James A. Tobey



The daggers of crazed assassins saved a few from the ravages of disease.

THE KINGS of France from the time of Hugh Capet in the tenth century seldom lived like heroes and certainly never died like heroes. Most of them succumbed to maladies brought on or promoted by their own follies and excesses, and accentuated by a consistently poor heredity. The daggers of crazed assassins saved a few from the inevitable ravages of syphilis or tuberculosis, but the majority died miserably of diseases now known to be preventable and often curable.

Tuberculosis was a frequent destroyer in the royal families of France during the Middle Ages. Although it is realized today that economic and social factors play a significant rôle in the incidence and sometimes in the severity of this disease and that tuberculosis is generally much more prevalent among the underprivileged, a high position apparently conferred no immunity to the white plague in the period when France was ruled by the Valois. Kings and princes were afflicted as impartially as the common people; perhaps more so.

When Charles IV, king of France, died in 1325 of a cerebral lesion, nearly four centuries of rule by the House of Capet came to an end. Since Charles did not leave any legitimate male descendants, the throne went to his second cousin, Philip VI, son of a younger brother of Charles IV's grandfather, Philip III. The accession of Philip VI was protested by Edward III, king of England, who claimed the throne

# of FRANCE

Part I

The House of Valois-Orleans

through his mother, Isabella, daughter of Philip IV and aunt of Charles IV. The result of this claim was the Hundred Year's War, which did not end until the time of Joan of Arc.

Tuberculosis had put Charles IV on the throne, as he was the third son of Philip IV, who died in 1314 of what was probably typhoid. The eldest son, Louis X, died in 1316 of pneumonia, whereupon the second son, Philip, became regent, as the queen was with child. The infant died a few days after birth, and Philip V became king, only to die six years later of a tuberculous infection.

Philip VI had other troubles on his hands besides the disastrous war with England. During his reign occurred the greatest epidemic ever known, the Black Death, which reduced the population of Europe by one-fourth. The plague was responsible for the death of Philip's wife, Jeanne of Burgundy; and his enemy, Edward III, lost a daughter from the same disease. Philip VI died in 1350 of an unknown cause.

John II succeeded his father to the throne; he had scrofula, or tuberculosis of the glands, but was saved from death from this malady by being stabbed in 1364. His successor, Charles V, was gouty but apparently more robust, as his demise in 1380 was due to heart disease. The next king, Charles VI, was insane most of his life and died in 1422 of an acute mania. He had twelve children, whose heredity could hardly have been worse, a fact indicated in part by the deaths of most of them in early life and the poor health and the mental defects of the few who survived.

Charles VII was the fifth child of Charles VI, the first four children having died successively on the day of birth, in the first year, in the second year and in the eighth year. Three of them succumbed to tuberculosis, a disease with which Charles VII was also afflicted and from which he died in 1461. When Charles VII came to the throne in 1422, most of France was in the hands of the English, Charles VI having signed a disadvantageous treaty of peace, which recognized Henry V of England as his successor.

Charles VII was weak and vacillating and probably would have been driven from France by the English if a remarkable event had not occurred. From Domremy came a young woman named Joan of Arc, inspired perhaps, but unquestionably a psychopathic personality, who obtained such a hold over the troops that she led them to a great victory over the English at Orleans. With the aid of the duke of Burgundy, who conveniently changed his allegiance, the French swept the enemy from their land, so that the neurotic Charles became king in fact. The French ecclesiastics, operating through the Inquisition and stimulated by English influences, showed their gratitude to Joan by burning her at the stake in 1431. In 1909, however, she was beatified by the pope as a saint.

Louis XI, whose epilepsy was a mark of his bad heredity, succeeded his father, Charles VII. He was morose and suspicious, suffered from chronic stomach trouble, had the itch and was plagued all his life by hemorrhoids. He was a hypochondriac, the prey of quacks and astrologers, and in later life he retired to Tours where he was visited by a scrofulous hermit, Francis de Paul, who promised to cure him but failed,

as the king died in 1483 of a cerebral hemorrhage.

Louis was succeeded by his third son, Charles, for the two elder sons had died young. Charles VIII was feeble and displayed every indication of the usual tuberculous future, but he died instead in 1498 at the age of 28; a fall had caused concussion of the brain. He had married Anne of Brittany but had left no issue, one son having died of smallpox at the age of 4 and two other sons having succumbed shortly after birth. A daughter, Anne, died the same year that the king did.

The throne then passed to Louis XII, son of the duke of Orleans, who married the widow of Charles. By her he had four children, two of whom died young. When Anne died in 1514 of stone in the kidney, Louis married Mary Tudor, sister of Henry VIII of England. He died in 1515 of an unknown cause, although he suffered severely from gout.

One of the surviving daughters of Louis XII, Claude, had married Francis of Angouleme who next became king. Francis apparently had a better heredity than had the Valois who were his predecessors, but he ruined his talents somewhat by his voluptuous nature, which resulted, among other things, in the acquisition of syphilis. Although he suffered greatly from this disease, the actual cause of his death in 1547 was a tuberculous fistula, according to the opinion of French medical historians who have studied his career.

Francis married Catherine de Medici of the famous Italian merchant family that produced two popes, numerous cardinals and the rulers of Tuscany. The children by this union, which was sterile for ten years, were a frail and degenerate lot. The oldest son, Francis, died of pneumonia at the age of 18. A third son succumbed to an acute disease of the respiratory organs. The second son, who succeeded his father as Henry II, was accidentally wounded in a tournament in 1559 and died of infection from the wound. It is possible that he had tetanus, although meningitis is assigned as the direct cause.

Henry, like the two brothers who succeeded him, was undoubtedly tuberculous. His brother, Francis II, was a weakling and was dominated by his mother, the vicious Catherine. He suffered from adenoids, breathed through his mouth and was afflicted with eczema. In his youth he had smallpox but managed to recover. At the age of 15, while he was still immature, he was married to Mary Stuart, queen of Scots. In the same year he became king.

Through the influence of his intriguing uncles, the duke of Guise and the cardinal of Lorraine, Francis was induced in 1560 to order the execution of the prince of Condé, noble leader of the Huguenots. Not wishing to be in Orleans at the time of the consummation of this unjust act, he sailed down the Loire. A cold wind caused an intense earache, sending him to his bed, from which he never rose. Many historians have attributed the king's death to a tuberculous infection of the ear, but it seems more likely that he had a typical infection of the middle ear, followed by meningitis.

The next brother, Charles IX, who then became king, was a flaccid individual who, nevertheless, was interested in sports, in games and in the chase, and who insisted on taking violent exercises which left him exhausted. During his reign there occurred that blot on history known as the Massacre of St. Bartholomew, instigated chiefly by Catherine de Medici. In the wholesale slaughter of the innocent Huguenots, Charles spared his Protestant physician, Ambroise Paré, who is said to have cured the king of a venereal infection and thus to have won his high regard.

Following the holocaust of St. Bartholomew, Charles became moody and suffered from insomnia. His health began to fail, and he displayed all the symptoms of pulmonary tuberculosis, from which he died in 1574 at the age of 24. The ignoble Catherine died in the same year at the age of 71. Ten years later, a younger brother of Charles, also named Francis, duke of Alençon, died of tuberculosis at the age of 30. A sister, Madeleine, who had married James V of Scotland was another victim of the disease at the age of 17.

The last of the children of Francis I who ruled over the kingdom of France was Henry III, who had previously been king of Poland. Henry inherited the licentious spirit of his father, and in the exercise of it he acquired syphilis. In 1589 he was stabbed in the stomach by a mad monk, a fate which may have saved him from the tuberculosis to which the members of his family were so susceptible.

With the death of Henry III, the throne of France passed from the House of Valois to that of Bourbon. Henry, king of Navarre, a descendant of Philip III, became king of France as Henry IV, commonly known as Henry the Great. His descendants were, however, to suffer from the ravages of tuberculosis in much the same manner as had the Valois.

The long rule of the Valois in France from 1325 to 1589, or more than two and a half centuries, was not distinguished by the nobility or ability of its kings. Through the whole family ran the threads of tuberculosis, syphilis, smallpox and other plagues and pestilences, with concomitant mental and physical degeneracy. Wars, famines and epidemics were rife; and many of the wars and some of the other disasters were due to the neurasthenic actions of the ruling princes of the times. Thus do diseases affect the history of the world and govern the fortunes and misfortunes of its people.

(To be concluded)

The Story of Local Anesthesia

By

JAMES E. LEBENSOHN

THIS YEAR, 1934, is the fiftieth anniversary of the discovery of the anesthetic action of cocaine. The discoverer, Carl Koller, was but 27 years old and but two years out of medical school when he made this epoch-making observation. Shortly afterward, he emigrated from Germany to New York City where he has since resided. In 1927, to commemorate his seventieth year, the Association of Anesthetists of the United States and Canada dedicated a scroll of recognition to him; and this year he was awarded the medal of the Academy of Ophthalmology and Otolaryngology in honor of his achievement.

Before the advent of cocaine, attempts had been made to induce local anesthesia by means of cold and compression. These procedures not only proved unsatisfactory and of limited value but also were so painful as to be well termed anesthesia dolorosa.

To specialists in the field of the eye and of the nose and throat, Koller's discovery was of greater significance than was that of general anesthesia. On account of the hazards of general anesthesia in certain operations on the eye, such operations were done without any anesthetic whatever before the arrival of cocaine. The only intranasal intervention then performed was the more or less exact removal of polypi. In laryngeal procedures, general anesthesia was likewise unsuitable, and the cooperation of the patient was sought through preliminary training, the daily practice often continuing for weeks and months before the surgeon felt that the case was ripe for operation.

Looking backward, it is easy for the historian to perceive the perspective of thoughts and events leading up to a great discovery, but during any period contemporary, representative leaders may be confused by the cross-currents of ideas in the air. In this connection it may be noted that only fifteen years before the demonstration of ether anesthesia, Velpeau, the most famous surgeon of his day, wrote: "To avoid the pain of operation is a chimera which follows one no longer." Similarly, almost on the eve of Koller's discovery, a British medical commission, investigating cocaine in 1880, reported that the drug was merely a poor substitute for caffeine.

On his graduation from the Vienna Medical School, Koller began training as an eye specialist, and the desirability of a local anesthetic soon commanded his attention. In vain he experimented with various drugs and was almost ready to admit defeat. At this time, Sigmund Freud, now known as the father of psychoanalysis, was testing the treatment of morphine addiction by the substitution of cocaine, and he asked Koller to cooperate in some physiologic experiments. After tasting the drug and feeling a subsequent numbness of the tongue, Koller asked himself whether this might not be local anesthesia. He hurried to the laboratory and instilled a drop of cocaine solution in the eye of a frog and then the eye of a guinea-pig. After a few minutes he found the eyes insensitive to mechanical, chemical, thermal and faradic stimulation. He next experimented on himself, on his colleagues and finally on patients. The official demonstration at Heidelberg, Sept. 15, 1884, should rank historically with the famous first public operation under ether at the Massachusetts General Hospital, Oct. 16, 1846.

Carl Koller, who discovered cocaine fifty years ago.

Although the efficacy of cocaine anesthesia was soon confirmed, its limitations shortly became manifest. Deaths from hypodermic administration impelled surgeons to develop a safer technic, and chemists to seek less toxic substitutes. Modifications of cocaine were developed, notably beta eucain, which, because of its reduced toxicity, soon displaced cocaine for infiltration; but even this drug was too toxic to be used except in those cases involving minor surgical procedures.

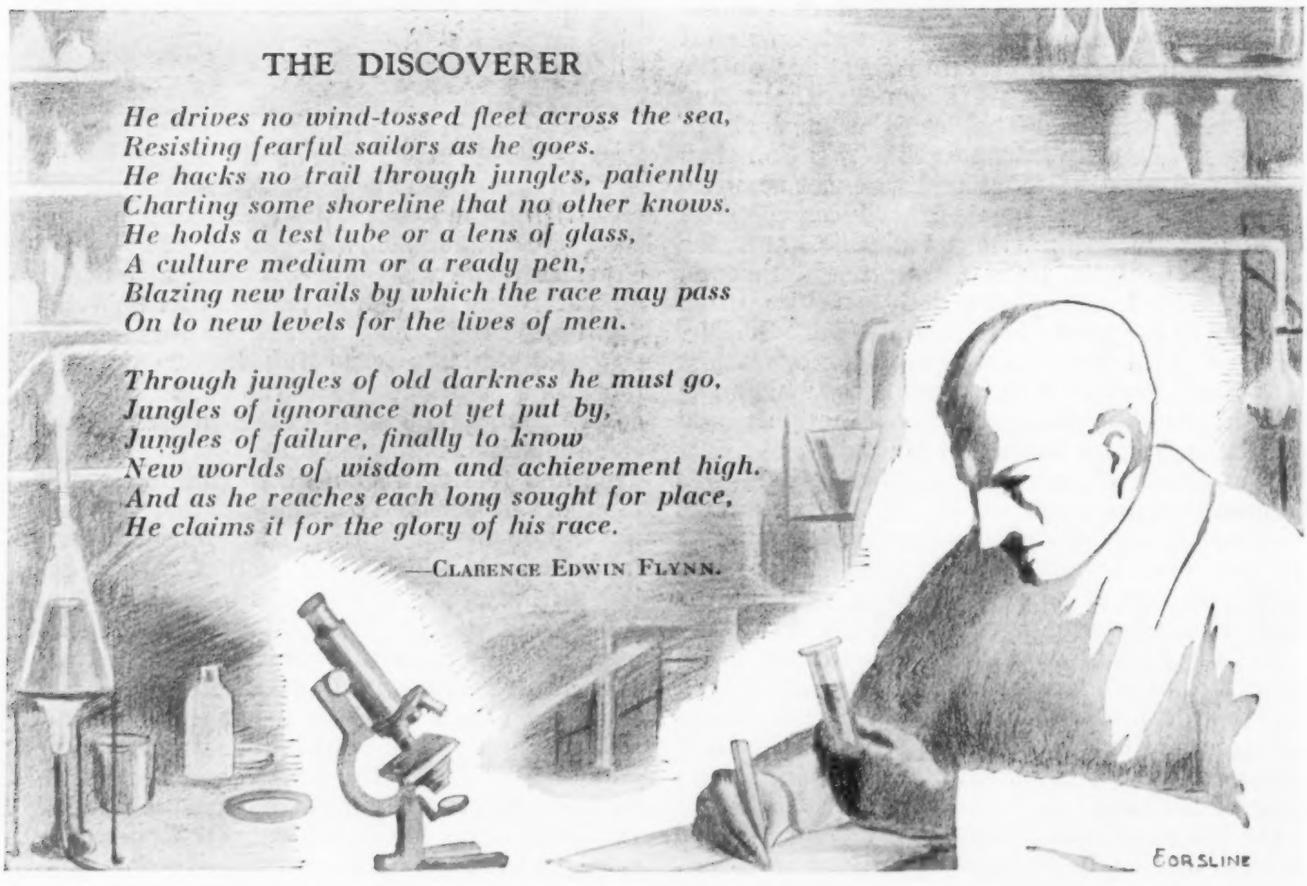
However, the advent of epinephrine in 1901 inaugurated a new era in local anesthesia. The epinephrine constricted the blood vessels and properly localized the anesthetic which was injected with it. Heinrich Braun, the great pioneer surgeon in the field of local anesthesia, enthusiastically described it as a chemical tourniquet that not only minimized the possibility of toxic reaction but considerably extended the duration of anesthesia.

After Willstätter worked out the constitution of cocaine, Paul Ehrlich, the authority on chemotherapy, promulgated the view that the entire cocaine molecule was not necessary for anesthesia. Inspired by his conception, chemists proceeded along his suggestions to devise better anesthetics; as a result, procaine hydrochloride was produced. Procaine, achieved by Alfred Einhorn in 1905, is one of the supreme triumphs of synthetic chemistry, and although it is the first of its type, it has yet to be surpassed in its field. When it is injected, it is as effective as cocaine, but its toxicity is minimal.

Control over local anesthesia has been further enhanced by the discovery that the barbiturates, or drugs of the barbital type, can minimize or counteract the toxic symptoms of cocaine or of its synthetic substitutes. After the previous administration of barbiturates, animals survive up to four times the ordinary fatal dose of cocaine or procaine.

Although procaine is so effective on injection, it has only a slight surface action. However, numerous substitutes have been developed to take the place of cocaine in this field; of these the most notable are butyn, nupercaine and pantocain. Nevertheless, cocaine, because of associated properties, is peculiarly adapted for certain operations on the eye, and as yet no other drug has become as favored for these interventions.

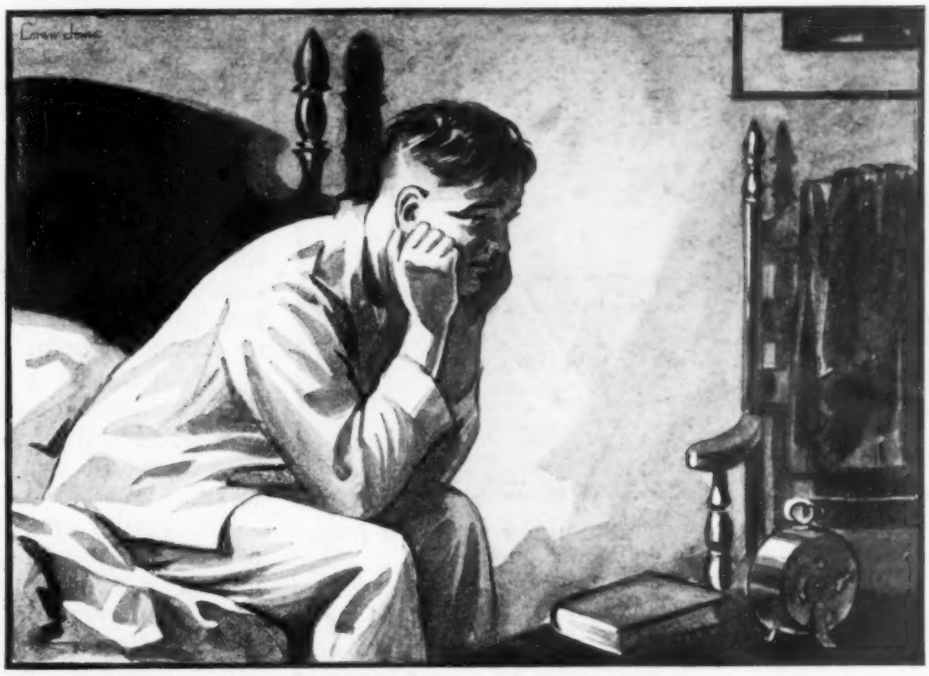
In surveying this semicentenary of local anesthesia, medicine is indeed proud of the progress achieved. Surgical technic has developed hand in hand with pharmacologic advance so that now, given the cooperation of the patient, almost any surgical venture can be as successfully undertaken under local as under general anesthesia. Current monographs indicate that the field of local anesthesia today recognizes few if any technical barriers.


THE DISCOVERER
He drives no wind-tossed fleet across the sea,
Resisting fearful sailors as he goes.
He hacks no trail through jungles, patiently
Charting some shoreline that no other knows.
He holds a test tube or a lens of glass,
A culture medium or a ready pen,
Blazing new trails by which the race may pass
On to new levels for the lives of men.
Through jungles of old darkness he must go,
Jungles of ignorance not yet put by,
Jungles of failure, finally to know
New worlds of wisdom and achievement high.
And as he reaches each long sought for place,
He claims it for the glory of his race.
—Clarence Edwin Flynn.
Forsline

Preventing Arthritis

By

MAURICE F. LAUTMAN



They awaken tired in the morning and have to drive themselves to keep going during the day.

TO SPEAK of preventing arthritis, a disease which until a few years ago was generally regarded as incurable, may at first glance appear a bit presumptuous; but science in the past decade has added so much to the knowledge of the rheumatic diseases that not only the prevention but also the cure of these conditions is rapidly becoming a reality.

The term arthritis is merely another word for what was formerly called rheumatism. The two words are synonymous and interchangeable, and they refer to the same disease without any implication of greater or lesser severity of the disease in either designation. Arthritis, or rheumatism, was formerly believed to be a disease which primarily affected the joints, but most students of the disease today are agreed that it is essentially a constitutional disease which in time affects the joints and causes varying degrees of discomfort, disability and deformity. In other words, the symptoms manifested in the joints are merely the outward evidences of a deep seated and more or less generalized constitutional disturbance.

The period of general constitutional disturbance which precedes the appearance of active joint symptoms is spoken of as the prearthritic state. The prearthritic state may last for from several months to several years. During this time the patient shows slight but unmistakable evidences of ill health, which if correctly interpreted will indicate the beginning of arthritic trouble. The institution of corrective measures during this time frequently prevents the further development of arthritis. On the other hand, failure to recognize the importance of promptly instituting corrective measures during this period will in many cases favor the development of arthritis and will present a much more complicated problem for treatment.

The symptoms of constitutional disturbance during the prearthritic state are those indicative of a state of failing health and lowered physical resistance. Perhaps the most commonly noted symptom is a feeling of more or less constant fatigue. These patients show rapid physical and mental exhaustion under the slightest strain. They awaken tired in the morning and have to drive themselves to keep going during the day. On the rare occasions when they wake up feeling vigorous and full of pep, they are tired out and listless by noon. They are usually of the nervous type and frequently are emotionally unstable. There is often a loss of appetite and a moderate loss in weight. Occasionally a slight increase in body temperature is noted. The blood pressure is almost always below normal. Headaches are common. These patients are inclined to feel cold, to have cold, clammy hands and feet and to perspire easily.

Along with these symptoms there is usually present a certain amount of muscular stiffness and pain in the joints. When the patient arises in the morning the back or neck or hands may feel stiff. Numbness and tingling of the hands and feet are common complaints. Many patients have bone pains and creaking of the joints, and as time goes on there may be sudden acute

They are usually of the nervous type and frequently are emotionally unstable.

attacks of rather intense pain in a joint or a muscle; these attacks last but a day or two and then subside. When attacks of this character affect the small of the back, they are spoken of as lumbago or muscular rheumatism; when they affect the lower end of the spine, they are regarded as sacro-iliac strain. Sometimes the pain radiates down the back of the leg and is called sciatica; or if pain affects the shoulder or arm, it is spoken of as bursitis or neuritis. It is important, therefore, for the patient to realize that if he has felt "run down" for a while and if muscle or joint pains develop which he is inclined to diagnose as sciatica, lumbago, sacro-iliac disease, bursitis, neuritis, neuralgia, muscular rheumatism or something else, he is probably suffering from an incipient arthritis, which has a good chance of affecting all the joints unless proper treatment is instituted. Furthermore, it is generally recognized that in many of these cases which are spoken of as sciatica, neuritis or bursitis, changes of an arthritic nature have already occurred in the bones and joints of the spinal column, and the pain which the patient experiences in the arm or leg is caused by inflammatory changes about the vertebrae and corresponding nerve roots.

From this point, the progress of the disease is liable to vary with the physical condition of the person affected. If he is young and in comparatively good health and the underlying infectious element is discovered and eliminated, the condition is liable to remain stationary or even to correct itself. More often, however, the periods of discomfort become more frequent and more disabling, producing greater inroads on the patient's resistance; and finally some untoward event occurs which makes a sudden demand on the patient's already depleted physical reserve, and active disease of the joints will rapidly supervene. These untoward events, which are spoken of as the precipitating or inciting causes of arthritis, are liable to be comparatively slight and apparently inconsequential; but in almost every case of severe arthritis the patient will date the onset of his disability as coming soon after exposure to wet and cold, a severe head cold, an attack of tonsillitis or influenza, an attack of dysentery or other intestinal disturbance. Mental strain, nervous shock, and worry as well as pregnancy and the menopause frequently play a part as precipitating causes. The factors mentioned as precipitating causes must in no way be regarded as producing arthritis in a person who is not susceptible; but in a predisposed individual these factors break down the final barriers of the patient's resistance and permit the actual causative agent of arthritis to get in its nefarious work.

The actual causative agent in most cases of arthritis is a germ, and it is this germ or its poison which induces the inflammation and associated symptoms in the joints and tissues of these patients. The germs have in all probability been harbored for some time in some distant part of the body. These nests or collections of germs are called foci of infection; and while sometimes the foci of infection produce symptoms of disease in the organ or tissue which harbors them, more often their presence is unsuspected until manifestations appear in the joints. The commoner locations of foci of infection are the teeth, tonsils, nasal sinus, gallbladder, intestinal tract and generative organs.

We see, therefore, that there is involved in the production of arthritis a state of ill health aggravated by one of the precipitating causes which finally permits the dissemination of a germ or its poison to the various joints and tissues of the body. This point must be clearly understood, because in order properly to attack the problem of preventing or curing arthritis, one must visualize the full breadth of the arthritic picture and the various pathologic forces that are concerned in producing the disease.

At the risk of creating some unnecessary fears it must be emphasized that the individual who has been in failing health for some time and who has slight but recurring attacks of pain or discomfort in or about a joint, muscle or nerve is potentially a victim of arthritis; but if preventive measures are instituted before actual changes in the bone have taken place, there is a good chance of warding off serious and perhaps more permanent trouble.

Measures calculated to prevent further extension of the arthritic process must have for their object improvement of the patient's physical

condition, removing or curing all foci of infection and instituting measures to repair the damage to the affected tissues that has already resulted. In building up the patient's physical condition the two most important elements to combat are worry and fatigue. The patient must learn to eliminate his fears and to handle his daily business or family problems without worrying. Fatigue sometimes occurs from overwork, but perhaps it occurs more frequently as a result of what is done for diversion after working hours. Enough hours of relaxation and rest in bed should be allowed to permit the individual to recuperate fully from the activities of one day before assuming the next day's work. Freedom from unnecessary responsibilities and an attitude of optimism and hopefulness toward one's problems should be cultivated. Prompt attention to minor ailments and slight illnesses is important; they should be given adequate care by a physician.

Attention to the diet is extremely important. In former days it was believed that all rheumatism was associated with the accumulation of uric acid in the system, and accordingly, the red meats and so-called acid fruits were forbidden. It is realized today, however, that uric acid plays but a minor part in the causing of arthritis, and it has been found that a certain amount of red meat is not only not harmful but actually beneficial. A good rule to follow with reference to the daily meat allowance is to regard red meat, white meat, veal, lamb, fish, fowl and eggs as all in the same class and partake of this type of food not too liberally once a day. In cases where it is desirable for a patient to increase his weight, eggs may be permitted daily in addition to the regular protein allowance.

Fruits of all kinds including the citrus fruits are allowed in any quantity as are also milk and vegetables, either cooked or raw, with the exception of potatoes, beans and peas. Fruits and vegetables are desirable because of their laxative action as well as their vitamin content, and in cases in which additional vitamins are deemed necessary, cod liver oil is indicated. Constipation should be prevented.

Rich foods, high in caloric content are definitely harmful in arthritis. This group includes foods which are excessively sweet, such as pastry, ice cream and candy; foods which are excessively fat, such as bacon and pork, fried foods, rich gravies and salad dressings, and foods which are rich in starches, such as potatoes, beans, peas and white bread. While it is not possible entirely to eliminate these foods from the diet, it must be understood that this type of food must be restricted almost to a minimum.

The elimination of all foci of infection requires a thorough study by a competent physician of every location from which germs or their poisons are likely to be absorbed. Diseased tonsils, abscessed teeth, dead or devitalized teeth, or teeth affected by severe pyorrhea should be removed. Infected nasal sinuses should be treated or drained. Symptoms referable to a diseased gallbladder or appendix sometimes indicate removal of these organs. Disturbances of the stomach or intestinal tract will usually respond to correction of the diet, and evidence of infection in the genito-urinary tract calls for treatment. The patient must not be content to have one focus of infection attended to but should trace down every possible source of infection and have it proved either definitely at fault or quite as definitely free from suspicion.

Correction of living habits, proper diet and removal of foci of infection do not always result in disappearance of pain or other joint symptoms. These symptoms in the early cases are believed to be due to interference of the blood circulation in the affected part, and benefit to these parts is frequently noted after the use of measures which improve the circulation. Exercise is beneficial in stimulating the general circulation, but care must be taken that the exercise is not too severe; it should not tire the patient or produce pain. Massage is excellent to improve local circulation, and here again gentleness and freedom from pain are important requisites. Correct habits in posture and breathing should be cultivated.

For relief from local discomfort, the application of heat is usually effective. Moist heat in the form of hot wet packs and, in the more severe cases, hot baths and various forms of hydrotherapy are extremely helpful. Diathermy and other forms of electrical treatments are sometimes beneficial.

Perhaps one of the greatest difficulties encountered in successfully preventing disease is the human tendency to gamble with health. Too much reliance is placed on the hope that nature, if not interfered with, will take care of everything. This belief as far as arthritis is concerned is, unfortunately, frequently disastrous. It is quite true that the individual who is threatened with arthritis has his work cut out for him. The task of preventing arthritis is not an easy one to be sure, but one has only to contemplate the countless persons who are disabled or hopelessly crippled to realize that as far as arthritis is concerned, the ounce of prevention will be worth tons and tons of cure. The assurance of a return to good health as a reward for his efforts should be worth a great deal to a person who is threatened with arthritis. It is to be hoped that this assurance and a better understanding of the underlying causes of his trouble will spur the prospective arthritic patient to greater and more intelligent effort and to added courage and hope to carry on his fight.

The PARENT, the DENTIST and the CHILD

By *F. F. Smith*

IN THIS DAY and age it seems almost unnecessary to point out the fact that the relationship between the parent, the dentist and the child is extremely important and has a direct bearing on the child's future. Nevertheless, in spite of the educational work done by school clinics, dental societies and private practitioners, to say nothing of the tremendous amount of advertising put forth by manufacturers of dentifrices and tooth-brushes in an effort to make the public "tooth conscious," too many fathers and mothers still do not understand or appreciate certain fundamental facts concerning their children's teeth.

The first sign of anything remotely resembling a tooth occurs at about the seventh week of fetal existence. The first appearance of a tooth in the mouth is made at about the seventh month of the child's life, when the two lower front teeth come through the gums. The time of arrival of the first teeth may vary somewhat between the sixth and the tenth months. From this time on, however, they make their appearance at irregular intervals until at the age of 2 or 2½ years the child's full complement of twenty teeth is in place.

The old saying, "For every child a tooth," meant, of course, that the mother sacrificed one of her teeth in bearing a child. This old belief had a solid basis because the unborn child draws on the mother's reserve of calcium and phosphorus to build his own teeth and bones. Because of a highly civilized and highly deficient diet which failed to supply as much of the necessary elements of good teeth and bones as was necessary for two persons, nature supplied the child at the expense of the mother. Even then the child sometimes failed to receive a sufficient amount of these minerals and came into the world to be afflicted with rickets and poor teeth. Today there is no need for these things to happen. Most physicians caring for an expectant mother prescribe a diet sufficiently rich in bone and teeth building elements, and they insist that she visits her dentist two or three times during her pregnancy for an inspection of her teeth and for any minor repair work that may be necessary. Likewise it is comparatively simple to follow the proper procedure after birth. There is no better food for infants than that which nature provides in the breast of the mother. A baby fed thus has everything that he needs, and if possible he should be nursed for nine months. If this is not possible, the physician will prescribe a formula to be given via the bottle. Mothers should pay close attention to the development of the temporary teeth of the child. The proper diet for a growing child will contain a sufficient quantity of milk, green vegetables and fruits and may be supplemented by cod liver oil and exposure to moderate sunlight when possible.

If the dentist is wise and experienced, he will make a friend and an ideal patient of the child.

If no outward sign of trouble develops earlier, the child may be taken to the dentist for the first time at about the end of the second year. While no work of any kind may be necessary, this visit has a twofold benefit. First, it enables the dentist to observe the progress of develop-

ment of the child's teeth and to advise the parent of any change of regimen that may be necessary, and second, it establishes the child's first contact with the dentist. If that dentist is wise and experienced, he will make a friend and an ideal patient of that child. No sculptor or painter ever had more pliable or more responsive material with which to work or a higher ideal to keep before him than a dentist has at the first visit of a small child.

I should like to give a sincere word of advice to parents. Do not, at any time or under any circumstances, allow your young child to overhear you discussing the horrors you have undergone in the dental chair. If you do, you will put an everlasting fear in his mind and make the future work of the dentist extremely difficult if not almost impossible. Perhaps all your reminiscences are true, but please bear in mind the fact that your recollections are of days gone by and that today with reasonable care and good advice it is extremely unlikely that your child will ever have to undergo what you did. I am not a psychologist or a pedagogue, but I do know that a young child who knows nothing of pain in the dental chair will never fear that chair. That is why the dentist will do his best to make a friend of the child on his first visit. Succeeding in that, the dentist has laid the groundwork in the patient's mind for a true appreciation of the value of his teeth and the utter folly of avoiding visits to the dentist.

As the child's body grows and develops, his teeth and jaws likewise grow and develop until at the age of 6 his first permanent teeth appear. They are four in number and are called the first molars, or 6 year molars, and they are undoubtedly the most important teeth in the child's mouth at this time. There are several points that are not generally known regarding these teeth. First, they do not displace any baby teeth; second, they come in behind the last baby teeth, and third, they are not, as many parents erroneously believe, baby teeth themselves. Often the watchful mother who is carefully observing her Bobby's teeth expects the permanent teeth to appear in the same order as did the first ones; consequently she sees the front teeth beginning to loosen, and, by placing her finger against the child's gum, she feels the permanent teeth directly underneath. However, by this time the 6 year molar, unknown to her, may already be in position. Chancing to see it, she may wonder where it came from, and often she dismisses it from her mind as merely another baby tooth. As a child has twenty baby teeth, it will be perfectly obvious that if twenty-four are present, at least four of them must be permanent teeth.

Parents often want to know what reason there is for attempting to preserve baby teeth when in the natural course of events they will shortly be lost. The reason dentists fill baby teeth to preserve them is so that these teeth may remain in position until the permanent teeth are ready to erupt. Let us suppose that two baby molars on the upper right side are lost at the age of 6. The 6 year molar is now in place directly behind the space that the baby teeth formerly occupied, and this tooth slowly begins to move forward. There are also two permanent teeth in the jaw bone that have not yet come through and that are designed to take the place of those lost baby molars. At the age of 11 or 12 when these teeth are ready to erupt there is no room for them; consequently they are forced forward into an unnatural position, and they crowd all the front teeth that are present. The result is that at the age of 15 or 16 the young boy or girl has acquired the familiar "buck teeth" or "squirrel teeth" with the unsightly protrusion and overlapping.

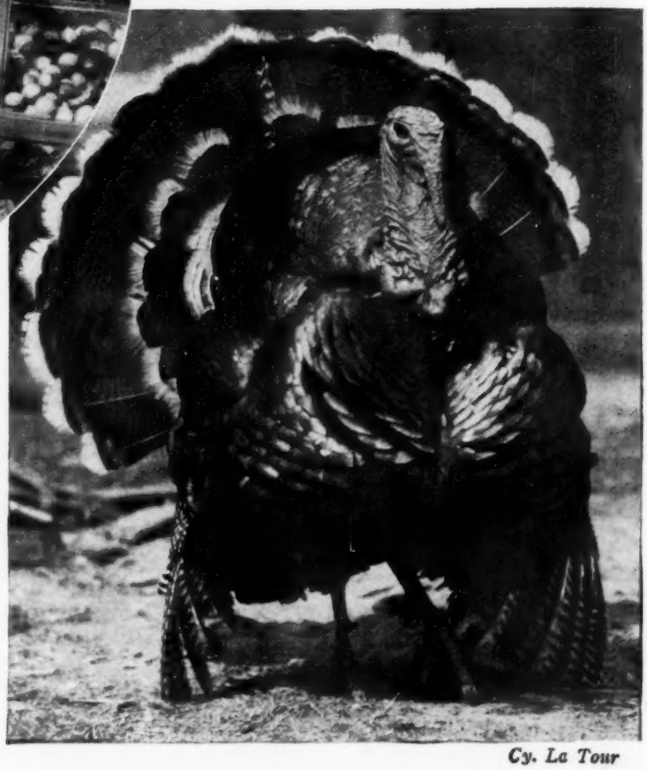
Of course, it sometimes becomes necessary to remove badly decayed or abscessed temporary teeth. In that case the only thing to do is to take them out and to insert a space retainer to keep the 6 year molars from moving forward until the two permanent bicuspids, as they are called, are ready to come in.

If this is not done, the crooked teeth must be straightened or regulated. This branch of dentistry is called orthodontia and is a complete specialty in itself. It has accomplished some really marvelous results in overcoming dental and facial deformities. The benefit to children who would otherwise be compelled to go through life with a sensitive fear of ridicule of their affliction, to say nothing of the decrease in their physical efficiency, is incalculable. Not all crooked teeth are the result of premature loss of temporary teeth. Bad habits in childhood are responsible for many deformed mouths. Thumb sucking and mouth breathing are the chief offenders among the bad habits. Bad tonsils or a decayed tooth sometimes cause a child to masticate in an abnormal manner, and this may produce a somewhat lopsided appearance. Bad habits, or any habits for that matter, are extremely difficult to break, and sometimes one must resort to strong measures. Of course, infected teeth and diseased tonsils and adenoids should be removed, and the child should be instructed in the formation of good habits.

Every growing child has the right to develop properly, physically and mentally; and, as the two processes often occur simultaneously, the thoughtful parent will see to it that no obstacle is left in the road to health. Dentistry today is concerned more with prevention, which is cheap, than it is with mere restoration, which is expensive. It is only common sense to argue that the dentist can do more good before trouble starts, by giving advice to benefit the child and to save the parent needless expense, than he can after the damage is done.

Autumn Album

Century-Allen



Cy. La Tour

Century-Chace

The first Thanksgiving in Plymouth. (Century Photo from a painting by Ferris)

Prenatal Care

By
EDWARD LYMAN CORNELL

Ewing Galloway

A part of prenatal care is the institution of the proper diet to insure a healthy baby and to save wear and tear on the physical well being of the mother.

WHY IS IT that child-bearing so often ends tragically? Is it the fault of the medical profession? In the large majority of instances I say, "No." Where, then, does the fault lie?

It lies at the door of the general public, particularly the women. I say this in all sincerity. My experience at the Cook County Hospital in Chicago taught me that 75 per cent of the obstetric tragedies occurred to women who had not had any medical attention previous to the onset of labor or had had medical attention only for a short time.

The medical profession has stressed and still is stressing the importance of prenatal care. Its admonitions have been delivered by magazines, by newspapers and by radio.

What is prenatal care? It consists in guiding the woman medically through at least seven months of her pregnancy. The physician aims to correct any physical defects, to institute the proper diet that will insure a healthy baby and to save the wear and tear on the physical well being of the mother.

Pregnancy and labor, in the vast majority of cases, are not simple physiologic processes. They are so complicated that everything about them is not yet known. However, the medical profession has been delving into these mysteries for centuries and is gradually bringing out the facts.

Since prehistoric days, pregnancy has been surrounded by many superstitions. Grandmothers tell their granddaughters many things which only create fear. If these superstitions are analyzed, it can be clearly seen that they are based on ignorance of what is happening during pregnancy. Few mothers know enough about anatomy or the physiology of the reproductive organs to comprehend the subject of childbirth.

Every woman's aim is to remain good looking; it is a splendid idea and worth all the effort expended. The average woman is willing to make many sacrifices in order to accomplish this purpose. She will seek medical advice on reducing and enter on a course of training with little objection. She will remove from her diet all the things that she likes. She will climb stairs, even if she hates to do so. She will roll on the hard floor until her body is black and blue, and like it. She will have her abdomen pommeled until her appendix cries out with pain, and like it.

Or she will take a Turkish bath on a hot summer day, and like it. Yet, when she is pregnant, she hates to waste the time to see a physician regularly and enter on a course of training which culminates in the greatest feat that a human being is capable of performing, the making of a baby.

The building of the human machine is a greater task than the building of the finest Diesel engine, the longest bridge or the largest electrical dynamo! The human machine is an internal combustion engine, a complicated irri-

gating system, a manufacturing plant with a multitude of products to manufacture, a gas plant where several kinds of gases are made, a pumping station, a sewage plant where waste products are automatically divided into three main groups, an electrical plant where impulses are passed to and fro along the lines and, finally, a robot which can automatically throw many switches in and out to accomplish life's functions. Besides all this, the human machine has a governor capable of thought, inspiration and reasoning; no machine other than the human can produce a brain.

Is it not worth some effort on the mother's part to manufacture this superengine perfectly? I say a course of training is worth while.

How did it come about that women have been brought to such a high degree of athletic proficiency that they are able to compete with men in many of the major sports? Even a school boy knows the answer. It is training. The boy or girl who is ambitious to be on a team in school knows that training is necessary. Babe Ruth, Helen Wills Moody and Virginia Van Wie reached their heights by training, not for a day, a week or a month, but for years.

If, then, training has enabled women to achieve an athletic development which, a few years ago, would have been regarded as impossible, why cannot the time be forseen when the greatest feat possible to womanhood, child-bearing, can be accomplished with less difficulty than at present? There is only one reason why this cannot happen soon; that reason is the refusal of the majority of women to go into training.

After all, childbirth requires more nerve, stamina and courage than any baseball, tennis or golf game. True it is that some women can bear children easily; but are not the natural athletes also few and far between? There are few women like Mildred Didrikson. Even she must have training to compete successfully against a large field. Without training, few champions are born. Prenatal care is the training period for the pregnant woman.

I shall outline briefly what constitutes prenatal care or training. The patient should have a complete physical examination in order that all physical defects may be discovered and, if possible, corrected. Some of these defects are bad hearts, infected teeth, kidney diseases, misplaced organs, nonmalignant tumors, various types of discharges, varicose veins, flatfoot and many other things too numerous to mention. Many of these conditions can be corrected and others alleviated, while a few will remain. If any are discovered by the physician, he knows about them before the birth and may be on his guard.

After the examination, directions for proper treatment and living are given. In some cases the pulse is rapid; in others it is too slow. In some the blood pressure is too low; in others, too high. Proper guidance will correct these irregularities.

Diet and elimination are important. A pregnant woman is eating to support herself and her unborn child; consequently she should eat foods which will supply the proper nourishment for the baby without drawing on her reserves. Teeth have a tendency to decay during pregnancy. By proper dietary direction, damage to teeth can be avoided to a large extent. Instruction should be given regarding the necessary vitamins and minerals, for they are essential to the proper development of the baby.

Obstetricians have less trouble now than formerly with maternity clothes. From my point of view, I am sorry to see the shirt-waist and skirt return. Any clothing which wraps around the waist and is supported from the waist is not good for an expectant mother. The baby has to bear some of the weight of the skirt.

The increased weight and the change in stature which come during the course of pregnancy necessitate attention to the feet. Proper shoes are important; the prevention of varicose veins is essential. The neglect of either of these leads to untold misery in later life.

By reason of the lack of instruction from mothers and fathers, many young married couples know next to nothing about personal hygiene. Little or nothing is known about marital relations during pregnancy. Such instruction is important to the well being of the pregnant woman.

Exercise is another important factor. A strenuous game of tennis or handball is not to be prescribed for all women; each should exercise daily according to her ability and requirements. One false idea of long standing must be abandoned; that is, that a pregnant woman must not stretch her arms above her head. Such an idea is ridiculous.

Another mistaken idea, which, fortunately, the American girl is forgetting, is that strenuous exercise, such as scrubbing floors, should be taken in the last weeks of pregnancy. No athlete, competing in a big event, exercises strenuously the day of the meet; in fact, he usually does not take any strenuous exercise for twenty-four hours previous. Why punish the pregnant woman and waste her strength and energy?

Let me stress again the advisability of every expectant mother seeing her physician early in pregnancy. She should insist on a complete physical examination. Those who contemplate child-bearing should have a physical examination to correct any defects which may be present. With the present-day facilities that are made available by civic, philanthropic and medical efforts, there is no excuse for any woman, no matter how poor, not having prenatal care.

DAINTIES for the DIABETIC

By *Florence Harbaugh Diamond*

Soon my husband was enjoying his diet meals, and I was having great fun working out new dishes for him.

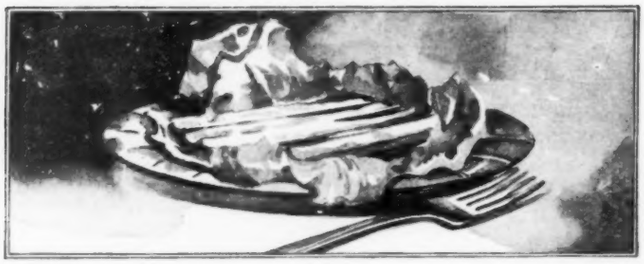
MY HUSBAND has diabetes. The day that we realized that this was a certainty, we felt that a great calamity had descended on us. The outlook was gloomy and full of despair. We could see no bright spot or silver lining in the black cloud which had enveloped us so suddenly. A rigid diet was prescribed, and we were impressed with the necessity of following it carefully and persistently. There were to be no more rich, sweet desserts, which my husband had loved and which I had taken great pride in preparing. Other things besides sweets were denied, but fresh green vegetables and fruits were permitted; and with these as a basis, I immediately began to study and plan attractive and palatable meals that would appeal to the appetite as well as to the eye.

Because I love to cook, I found the task interesting although difficult and tedious, but soon the results were gratifying. In time, the gloom and despair were only memories of the past. My husband was enjoying his diet meals, and I was having great fun working out new dishes for him.

Three years have gone by, and I feel that others who are confronted with the problem of three diet meals a day may welcome my experiences and my ideas on salads and desserts.

Nothing appeals to the appetite as much, or gives such attractiveness and color to the table, as a crisp salad. But one point to remember is that the salad should always be crisp and cold.

The salads that one may prepare, even for the diabetic, march in a long and interesting parade which makes it easy to have a variety every day. Gelatin salads, of which there are many kinds, are perhaps the fanciest and the ones you will want to serve when there is company coming for dinner or when friends drop in on a Sunday evening for supper. Use plain gelatin seasoned with salt and sweetened with saccharin. For the liquid, use fruit juices, such as unsweetened pineapple juice or orange juice with a bit of lime or lemon juice added to give an appetizing tartness. To such a gelatin mixture you may add chopped, unsweetened pineapple and grated raw carrots, and if desired a few pecan meats. Or half a pear, its center filled with a soft cheese, may be pressed down



into an individual mold that has been filled about half full of the gelatin mixture and left to set slightly. Cover the pear with more gelatin and let it chill. If desired, this salad may be tinted pale green with fruit coloring; the white pear filled with yellow cheese set in cool green gelatin makes an attractive eyeful at the table.

The pear, of course, should be unsweetened. If you do not already use this fruit canned in a water pack, by all means become acquainted with it. Peaches, pears and pineapple canned this way are sweet enough without the addition of any saccharin, but a small amount will be needed for the berries and apricots. This fruit is of standard brand and high quality and is one of the greatest aids that I have found in preparing sugar-free meals.

Of course, fresh fruit in season may be used in salads with equally good results. A peach half instead of the pear in the salad will be equally delicious. By leaving the gelatin untinted, you will have a truly golden salad; the pineapple juice will be pale yellow with the yellow peach full of yellow cheese molded in the center.

If a vegetable salad is wanted, chop cabbage, raw carrots, celery and green pepper, and add these to the gelatin mixture. You may want such a salad to be more tart than a fruit salad; if so, simply add 1 or 2 tablespoonfuls of vinegar when you season the gelatin.

Another salad that always wins applause is molded tomato juice. This salad is good as a meat accompaniment, and its red color makes it a table decoration as well. To make it, simply mix canned tomato juice and plain gelatin salted to taste with enough vinegar or lemon juice for tartness. To dress it up when guests are coming, add artichoke hearts or finely chopped celery.

Still another colorful salad marches past our reviewing stand. It is also red and is much in evidence on Thanksgiving and Christmas dinner tables. It is one that few persons would believe could be made palatable for a diabetic person, for it is cranberry mold. The unsweetened pineapple juice as the liquid and the saccharin tablets give the resulting salad exactly the right tartness to accompany turkey or other fowl. The raw cranberries are put through a food chopper and combined with chopped celery, and the whole is added to the gelatin mixture. The salad is molded in ring molds, and the hole is filled with mayonnaise before serving. For variety, cottage cheese is a delightful addition to this salad; it may either be served at the side of the mold or be placed in the hole in the center, with the mayonnaise piled at the side.

Other molded salads may be concocted of practically any left-over vegetables or fruits that are permitted in the diet. Radishes, green onions and cucumbers combine to perfection in a gelatin mixture, and there are endless other combinations. All these salads have an appetizing effect rather than a nourishing one. However, if you wish to serve a more substantial salad for lunch, there are the fluffy cheese molds or the main-dish salads such as those made of tuna fish or salmon and molded in gelatin.

In making the gelatin cheese salads, you may use pineapple juice for the liquid and either cottage cheese or any of the soft processed cheeses on the market. Mash the cheese and blend it with mayonnaise until it is the consistency of whipped cream. Have the gelatin mixture prepared and cooling while you are blending the cheese. When the gelatin has congealed slightly, beat it with a rotary beater until it is thick and fluffy; then add the cheese and pour into a mold. Chopped olives or chopped pickles are good in these cheese molds. One may use either sour pickles or sweet pickles made at home with saccharin.

There are also kinds other than the molded salads that beg to be noticed. For instance, there is the tomato! Almost every one likes fresh tomatoes, and there are so many ways to use them in salads. They may be scalded and peeled early in the morning and chilled all day; this is a great advantage. One simple attractive salad is made by cutting the peeled whole tomato into sections, flower-like, and placing it on a bed of shredded lettuce. The center is filled with cottage cheese, and cucumber wheels are inserted between the tomato petals. The result will be worth your effort. The tomato combines appetizingly with all vegetables for salads or is good used alone, arranged simply and attractively on lettuce or other greens.

Pineapple and cottage cheese make another easily prepared salad. To prepare this salad, spread a thick layer of the white, creamy cheese between two slices of unsweetened, canned pineapple, sandwich fashion. Fill the hole with mayonnaise, and dash paprika over the top. Yellow cheese with a sharp bite may be used in this salad for variety. Grapefruit sections combine delightfully with cottage cheese and can be prepared at the last minute. There are also such familiar salads as the Waldorf, made of celery, raw apples and pecan meats; the old favorite cole slaw, and the ever welcome head lettuce with French dressing or mayonnaise.

You may make salad dressing by simply following the directions given on a salad oil can,

omitting sugar if any is specified. If you prefer a slightly sweet dressing on your fruit salads, a saccharin tablet may be added to the egg along with the other seasonings before the oil is poured in.

Be sure that you do not forget your garnishes. They add to the appearance of all salads and give to the plainer ones a decidedly dressy appearance. Small, red, round radishes are always a bright spot on a salad plate, and if they are cut into radish roses, they are even more attractive. Celery stalks stuffed with your favorite cheese and soft yellow cheese shaped into miniature carrots and crab apples are effective. For the carrots insert a tiny sprig of carrot top in the end. In making the crab apples, roll them in your hand until they are round and resemble an apple in shape; use whole cloves for the stem and blossom end, and roll the whole in paprika. Green peppers may be stuffed with yellow cheese, chilled and then sliced. One or two slices on a salad plate are attractive as a garnish. Of course, a salad should never be served without lettuce or some other green beneath it.

One of the most important desserts is ice cream. I was somewhat doubtful as I made my first freezerful, fearing it would be unpalatable without sugar; but my worries were needless, because ice cream sweetened with saccharin is delicious. You may make plain vanilla or a custard cream. If desired, crushed fruit may be added to either of these bases just before freezing is completed. Fresh fruit and berries in season are preferred, but the canned fruit is a satisfactory substitute when the fresh fruit is not procurable.

Sherbets are a delight on a hot, withering day, and any fruit juice may be used in these to advantage. The unsweetened pineapple juice combined with the juice of one lemon and two oranges, saccharin to taste, a pinch of salt, and two stiffly beaten egg whites added at the last, makes a delicious refreshing ice that any one will enjoy. When fresh limes are in season, a lime and pineapple sherbet is a treat indeed. Other fruit juices such as unsweetened grape juice or blackberry juice may be used to make what I call a cream sherbet. In making a cream sherbet, the fruit juice is sweetened to taste with saccharin; a pinch of salt is added, and the mixture is then frozen to a mush. At this point, whipped cream is mixed with the frozen mush, and freezing is completed. A little lemon juice improves these sherbets, too. If you are not familiar with the use of saccharin, care should always be taken to use it sparingly. Taste the mixture to be sure, as an excessive amount produces a bitter rather than a sweet flavor.

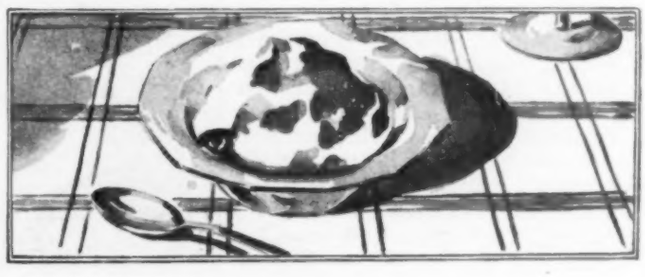
Apples come next as a dessert. Baked apples and plain stewed apples are delicious. In baking them, I proceed exactly as before, substituting saccharin tablets for the sugar, using usual amounts of cinnamon or nutmeg, butter and water. Apples, peeled, cored, cut into quarters, and stewed, in water that has been sweetened with saccharin, until they are clear and transparent, may be transformed into a company dessert simply by serving them with whipped cream and a dash of nutmeg over the top. Or, if you are carrying out a red color note in your dinner, the water in which the apples are cooked may be tinted red with fruit coloring. Place a broken stick of cinnamon in the water with the apples. Turn the apples often while they are cooking so that the color will be even, and be careful not to overcook them, for when you serve them with their topping of whipped cream, you want them to stand up alone and not fall in a heap.

These red, spicy apples are excellent to serve with ham, Canadian bacon or a pork roast. Put them on the platter with the meat, and garnish with parsley. When filled with chopped celery and pecans, these red cinnamon apples are delicious as a luncheon or dinner salad.

An apple custard dessert may be made by using 1 cupful of mashed, stewed apple for each egg. Place bits of butter on top and sprinkle with cinnamon. Bake until set, and serve with plain or whipped cream. This is good whether it is served warm or chilled. Perhaps I should give you some idea of the amount of saccharin needed for apples. I have found that one ½ grain tablet to each medium sized apple is a good proportion.

Baked custard is another ever welcome and simple dessert. To vary it, try flavoring it with lemon and orange instead of the customary vanilla, and when more variety is desired, serve the custard ice cold with fresh fruit. If bananas are permitted in the diet, they are delicious with custard.

Like gelatin salads, gelatin desserts are always good and may be prepared ahead of time. By using fruit juices for the liquid and adding any fruit or combination of fruits that is allowed, an attractive dessert may be made. You may serve this dessert with plain or whipped cream, but if you want to be different, tint the whipped cream any desired pastel color. Grape juice or blackberry juice may be used with gelatin. When the gelatin starts to thicken, whip it with a rotary beater until it is thick. Then add whipped cream, and put the mixture into molds. A fluffy three layer dessert can be



made of gelatin to which has been added stiffly beaten egg whites and saccharin. The mixture should be whipped until it is thick and starting to congeal. It is then divided into thirds, each part tinted and flavored differently, and is placed in layers in a square or an oblong dish. Each layer must be given time to set before another is added, so that the layers will not run together. When serving, slice the dessert in 1 inch slices and pile whipped cream on top. If desired, chopped nuts may be sprinkled between the layers.

At the end of the parade marches the King Dessert of them all! I have purposely saved it for the last, and I call it pie! My husband is not allowed white flour in any form, but we have found a satisfactory substitute in a flour made of soy beans. This flour has a carbohydrate content of only 1 per cent. From this flour I make a bread substitute; and it is this bread, toasted slowly in the oven until it is dry and crisp all through, from which the crust of the pie is made.

I roll the crisp toast until it is reduced to fine crumbs and mix the crumbs with an egg to hold them together. This mixture is seasoned with cinnamon, salt and melted butter. I blend it well, pat it down into a pie tin and bake it about twenty minutes in a moderate oven.

While this is baking, I make the filling. For this you may use your favorite cream filling recipe, omitting the sugar, and sweetening to taste with saccharin. You will find that canned milk thickens better than fresh milk and, as white flour cannot be used to thicken the mixture, this is an important item. I use the soy bean flour to help thicken the mixture; but as this flour does not do the job as effectively as white flour, the eggs and canned milk must help. Vanilla flavoring is good. When the cream filling is cooked, I pour it into the crust and sprinkle it with nutmeg. As you know, meringues are not a success if they are made without sugar, so our topping is whipped cream sprinkled with nutmeg. This spicy, attractive dessert well deserves the name of pie; and to the one who is dieting, it is a rare treat indeed.

The traditional holiday pumpkin pie is close behind in delectability. The same crust is suitable for this pie also, and the pumpkin filling may be made according to your own special pumpkin pie recipe, substituting saccharin for the sugar. Use plenty of eggs to thicken the mixture well and either rich milk or canned milk for the liquid. Pour the mixture into the unbaked crust and bake the pie until the pumpkin is set. Serve it with whipped cream

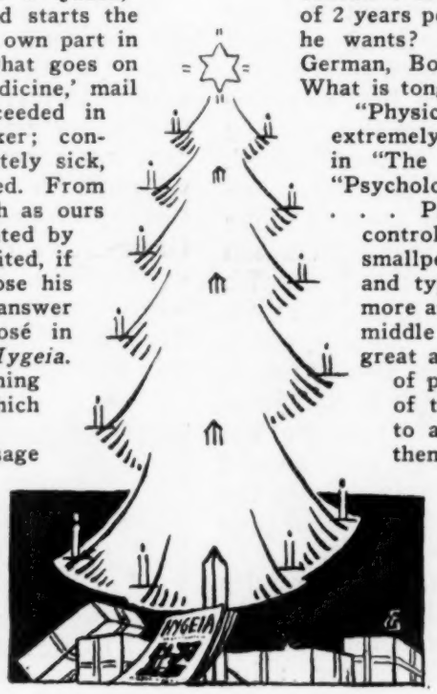
If the preparation of diet meals seems to you to be an uphill climb, do not give up or despair. Good things to eat can be prepared, and a large variety of dishes can be assembled, so that the meals will not have a sameness from day to day. Once you get into this game of planning new dishes of low carbohydrate content, it will fascinate you, and new things will tumble over themselves trying to get on your table.

HYGEIA Under the Christmas Tree Brings Health to You and Your Family

In "The Making and Unmaking of a Quack," *Jean Broderick* ends the old year and starts the new with a stirring confession of his own part in quackery, a complete revelation of what goes on behind the scenes in "the 'patent medicine,' mail order diagnosis racket": "We succeeded in selling Dr. Bill as a wonder worker; consequently we heard from the desperately sick, the incurable and the hopelessly crippled. From such as these a medical company such as ours derived its greatest profits." Confronted by the old question, "What is a man profited, if he shall gain the whole world, and lose his own soul?" A former quack gives his answer in a scathing denunciation and exposé in the December and January issues of *Hygeia*.

Eugenia Doyle contributes a charming bit of fiction, "Seeing Christmas," which will appeal to readers young and old.

Dorothy M. Wolstad brings a message of vital importance to mothers and fathers: "Justice to the child with a speech disorder demands early and effective attention. Not only his happiness in life but his usefulness is at stake." Among the many questions which are asked and answered in "Speech Problems in Childhood," are the following: Is left-handedness a causative element in stuttering? Does your child of 2 years point and mumble or grunt for the thing he wants? Should your child learn French or German, Bohemian or Italian with his English? What is tongue-tie?

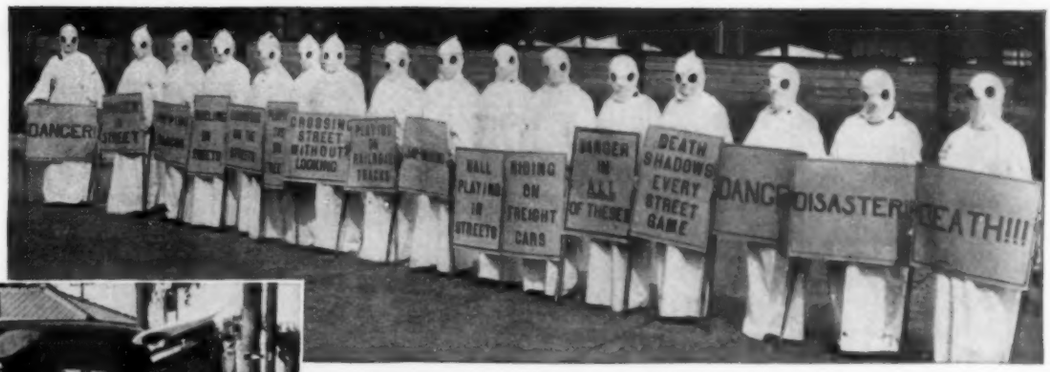


"Physical adjustment in the middle years is extremely important," writes *Dr. Smiley Blanton* in "The Psychology of the Middle Years." "Psychologic adjustment is equally important. . . . Preventive medicine has succeeded in controlling or eliminating such pests as smallpox, tuberculosis, malaria, yellow fever and typhoid and has so prolonged life that more and more persons are living through the middle age and beyond. This has been a great achievement, but it is now the problem of psychologic medicine to make the lives of these persons successful, to help them to achieve a contented spirit and to give them a flexibility of mind which will enable them to meet the new changes while retaining that which is worthy and of good repute in the old ways."

"Where Are the Meals of Yesterday?" From a comparative study of meals and methods of yesterday and those of today, *Ines S. Macaulay* draws entertaining and instructive material.

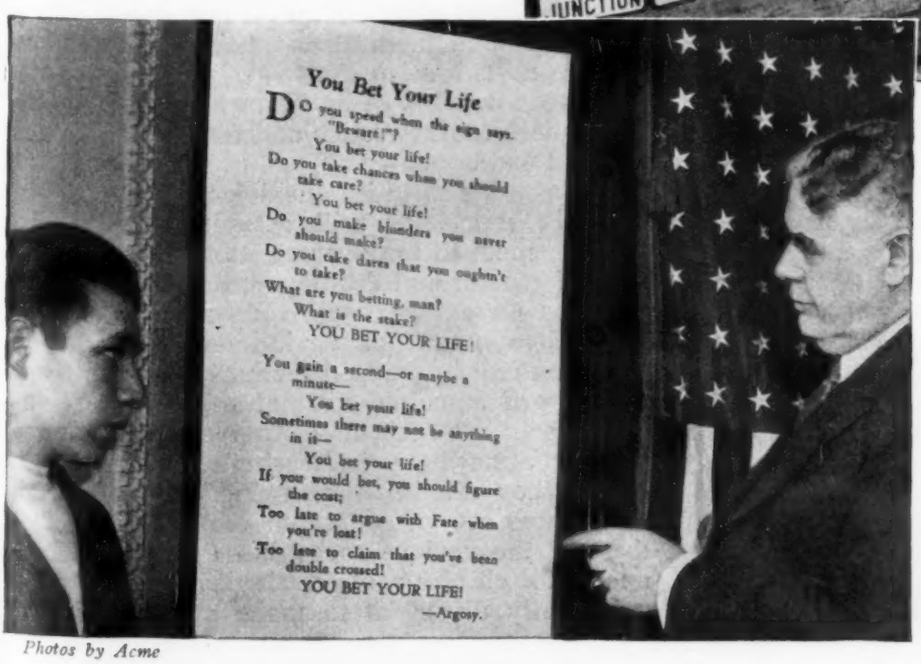
To Save Life

During a recent safety drive, Philadelphia school children demonstrated safety first with impressive placards and costumes.



Intent on keeping the casualties of reckless driving before the minds of motorists, the Phoenix, Ariz., police department has started marking every spot where a fatal accident occurs with this circle bearing a black cross.

Special factories throughout England are working day and night to turn out thousands of new road signs as a part of a national campaign for road safety. Signs will be uniform throughout the country.



You Bet Your Life

Do you speed when the sign says, "Beware!"?
You bet your life!
Do you take chances when you should take care?
You bet your life!
Do you make blunders you never should make?
Do you take dares that you oughtn't to take?
What are you betting, man?
What is the stake?
YOU BET YOUR LIFE!

You gain a second—or maybe a minute—
You bet your life!
Sometimes there may not be anything in it—
You bet your life!
If you would bet, you should figure the cost;
Too late to argue with Fate when you're lost!
Too late to claim that you've been double crossed!
YOU BET YOUR LIFE!

—Argosy.

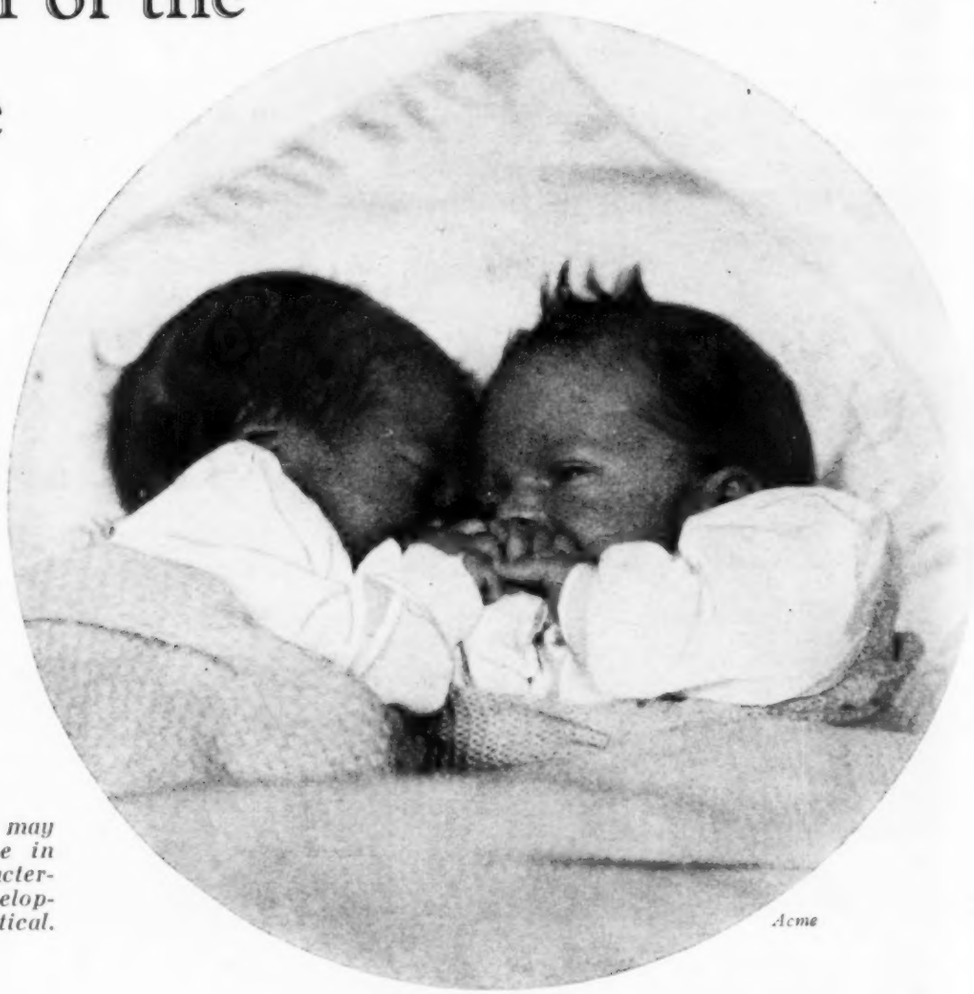
Judge Daniel S. O'Brien of San Francisco's traffic court has this poem hanging where all offenders must see it and gives a copy of the poem to each person appearing in his court.

Photos by Acme

The Myth of the Average Child

By

I. NEWTON KUGELMASS



Although twins may start life alike in physical characteristics, their development is not identical.

Acme

CHILDREN are being wronged by enforced molding to the means of mass measurement. Standardizing plastic youth into average patterns is detrimental physically to growing children, troublesome psychologically to perturbed parents and false biologically to the national ideal. Children are individuals, not average, in their body build and in their organs and tissues even to the single cells, 25 trillion in number, that compose the human structure. Deep seated differences and not equalities characterize children as strikingly as they do all the living world. Yet averages of all phases of child growth and development have been glorified as ideals for individual children to attain. There are average values for the period of gestation, for rates of respiration, for dentition, for sitting, standing, walking, talking, motivating, learning and countless other activities, not to mention the physical measurements relating to changes in body build and body weight.

Deviation from these averages is a matter of months in early childhood, gradually broadening to years in adolescence. Thus does the problem of conforming to averages become increasingly difficult to children and parents with the years of growth. Averages are no criteria of normality so far as the development of an individual child is concerned. They are first approaches but not final solutions in the developmental diagnosis of an individual child; yet educational institutions, health clinics and welfare units have unconsciously led the populace to the worship of figures, which has become a twentieth century fetish and well nigh a racket in child care.

The average child is nonexistent. Not a single child in thousands will actually conform in every respect to the average measurable standards of growth and development throughout his varied course. Average values are only the theoretical means of deviations of particular measurement in many directions obtained from a study of so-called normal material, heterogeneous in all respects. No two children are exactly alike in even a single characteristic unless they are identical twins. The physical differences are, of course, most marked in children of the various races, but even the differences in children of a single race will be sufficiently divergent to make straightforward

comparison rather odious. Children within the same national group, within the same community and even within the same family actually are distinctive and therefore cannot well be evaluated at random with averages not adapted to their sex, race or peculiar environment as obtained from average tables.

When one sketches the average, not the composite, face from a group of faces, the drawing will not be like any of them. In fact, the sketch may actually represent a face not in the group. Davenport attempted this in a large way by molding a statue of the average young American. The resulting figure was rather discordant; the trunk was abnormally long, the arms were disproportionately short, and the body was entirely out of poise.

Nothing is more deceptive than the average. A quoted average temperature gives but a poor idea of the extremes of heat and cold and a false notion of the condition of a sick child with extremes of temperature. We know that the average apparel will not fit our child. We know that the average wealth of a community is not in our pockets. We know that the average span of life never reaches every member of our family. We know all these things, and yet we are addicted to the supremacy of statistical averages.

Astronomers know more about the individual heavenly bodies than we do about our children, and yet they will not speak of them in terms of average characteristics. Quetelet, the Belgian mathematician, subjected the growth of the body to mathematical analyses, believing that the variations in length of the same age groups followed the curve of probability, but neither he nor his followers intended intelligent persons to misinterpret the mathematical mean or the average. It is merely a crude first approach to an evaluation of a child's characteristics and should be tempered by mature medical judgment. It is useful when confined to its limitations of approximation, but it is never diagnostic. The average child is rare, indeed nonexistent, if not a myth and a false standard for parental devotion.

The clinical applicability of the concept of the average may be tested more specifically in a nursery teeming with new-born infants. Let us follow the developmental progress of several infants of the same social stratum and economic status. Since there is a general impression that a new-born infant weighing a little more than the average 7 pounds starts with better advantages physically, we will select those who weighed approximately 8 pounds at birth. Physical examination at birth did not reveal any inherited or extrinsic disturbances. Although these selected infants are seemingly of the same mold of physique and of the same degree of immaturity, yet they are veritable individualities to the trained observer.

The day of birth is not the starting point of a baby's personality. The basis for the individuality that the child is to grow into is vested in the fertilized ovum at conception. Once the egg has begun to develop and to implant itself, all subsequent reactions in relation to the mother take on the manner of the behavior of its race and ancestry. Intra-uterine behavior marks the beginning of the child's manifestations of a physical personality. This constitutes 80 per cent of the predestined being, a whole lifetime being spent to attempt to modify the 20 per cent of plastic structure that is still capable of being molded.

Comparative observations of the developmental progress of the selected 8 pound infants are striking. Baby A had his first tooth at 3 months, sat up at 6 months, stood at 8 months, walked at 1 year and talked at 18 months. Baby B had his first tooth at 8 months, sat up at 9 months, stood at 1 year, walked at 18 months and talked at 13 months. These records of developmental progress represent extremes in this small group of babies selected for study. Shall these extremes be considered abnormal? They cannot be so considered because careful examination of every system of the body failed to reveal any pathologic conditions. The babies are under the same nutritional and hygienic care and medical supervision, and yet what a diversified picture of physical performance they present. The explanation lies entirely in the varied heritage of each baby.

At 18 months, Baby A weighed 32 pounds and yet did not appear obese. The big skeletal framework with long extremities constituted his massiveness. The parentage was Scandinavian. At 18 months, Baby B weighed 30 pounds but was short, fat and dimpled with many folds throughout the body. The baby was of Italian descent and conformed to the body build of his parentage. At 18 months of age, a baby of English extraction was relatively long and thin and yet weighed 28 pounds. A baby of German descent appeared wide and stocky and yet weighed only 27 pounds. A Negro baby with a small trunk and long extremities weighed 26 pounds at 18 months, while a Puerto Rican baby of the same age weighed only 24 pounds. The statistical average for 18 months is supposedly 26 pounds. Shall we then say that the Negro baby is the only normal one in the group? The fallacy of the average is at once apparent.

A well child may show marked variation from group figures, for there is a wide range of values for each developmental characteristic. A single mean in each range of values does not determine normality for any child. There is an individual norm for every individual child, and what may be normal for one may be quite abnormal for another. The group of inherited factors, barring, of course, acquired disease, determines the normal in growth and development.

Century

Children produced even by the same pair of parents never attain the same set of materials.

The average may be further tested in its applicability to American twins. Let us follow the developmental progress of "two-egg" twins of approximately the same weight and apparently the same physique at birth. Their deviations from month to month in all measurable physical characteristics become more and more striking despite the fact that they are maintained nutritionally in the same way, reared physically under the same hygienic and economic conditions and given simultaneous medical supervision. One of the twins may grow rapidly, gain steadily in weight, reveal developmental characteristics in an orderly manner, be calm and controlled and never cause any disturbance, while the other is ever discordant and apparently fails to thrive. It is futile to compare their developments with the average tables because neither of the children will conform, and yet neither is abnormal but merely different.

The fundamental basis for these developmental differences is in the constitution of each child, a potential endowment that has already become manifest at birth. But if averages do not apply to "two-egg" twins, they may possibly hold for identical twins. They are "one-egg" twins and rare beings who start life as duplicate individuals made of the same materials, oriented from the same genes in the same combinations. Identical twins start life as a single individual and are wonderfully alike in their physical characteristics. They are always of the same sex; their figures and features are alike; their eyes and hair are of the same color; their complexions are alike; their face, form and size are analogous; their teeth are alike even to the irregularities, and their finger-prints are as similar as those of the right and left hands of the same individual. They are alike even in bodily imperfections, in weaknesses and in tendencies to acquire diseases; yet their height and weight and developmental characteristics are not exactly identical. Thus are all physical and psychologic characteristics determined by the nature of the material with which life starts; that is, by heredity.

Every child is unitary and unique. Never before and never again can the exact conditions be reproduced for the evolution of the same being. The mother possesses about 17 thousand germ cells in all, while the father produces 339 billion germ cells. Any one of the 339 billion might unite with any one of the 17 thousand cells. The chances that a single combination is formed is 1 in 5 million billion. Thus is each individual a definite hereditary composition, never the same, and ever unique in the minutiae of its detail for each child.

The parent cells that unite are also unique. Each bears a great set of diverse materials, perhaps a thousand different kinds, called genes. The set borne by one child differs greatly from that borne by the other. In the formation of a child, half of these materials are taken in a random way from one parent, and half from the other, and the two halves together form the new being-to-be. It is like the drawings of a lottery with the genes as the counters. The rules by which these drawings operate conform to the mendelian laws of inheritance. With such a vast number of genes to draw from, no two children thus produced even by the same pair of parents ever attain the same set of materials except, of course, in the case of certain pairs of identical twins. This, then, is the cause for the great variety in physical features and mental characteristics among human beings. This is the revelation that challenges the place of the average in the evaluation of an individual child.

When two life cells fuse, the reaction is deep seated, definite and different in detail. The nature of the chemical changes involved in this union is still a problem, but the consequences of the reaction are multiple and continuous, yielding the kind of energy that makes for cell division, multiplication, aggregation and differentiation. It is a panorama of the power of life to change in composition from moment to moment, and yet its tempo and trend are definite, although different from the content of any other formative being yet evolved. Growth is the dominant manifestation of this rare combination of living cells. It involves more than mere change in size and form. It is gradual evolution from ovum to maturity involving the

acquisition of new functions and fresh responses to its immediate environment by unfolding new patterns of behavior. It is all produced by the action of nurture on nature.

Growth does not proceed as uniformly as a crystal, else the resulting beings would be spherical like the original cell, all would be alike in form and different only in size. In fact, if growth were a steady process, an adult would weigh 500 pounds. It is inequality of increasing dimensions of various parts of the body that characterizes the human structure. It unfolds in spurts with alternating periods of rapid and slow progression. These periods form the so-called growth cycles, three of which characterize every mammal. There are three springing up periods and three filling out periods. Rapid infancy is followed by the slow preschool period; the period of second dentition is followed by slow childhood; rapid puberty is followed by slow adolescence.

Every cycle is an expression of an underlying, self accelerated process associated with its characteristic manifestations of behavior. It seems that each action is followed by a reaction, the one physical and the other mental, the one motor and the other emotional, the one stimulating and the other fatiguing, the one exulting and the other depressing. It parallels in a living way the rhythm of the elements in nature, but mere measurement never reveals these profound changes in growth. Our real interest in children is not in their changes in height and weight but rather in their changing activities and behavior prompted by the passage from one developmental period to the other. A gain of 1 pound in weight in a well nourished infant means an increase in brain substance, viscera and vital structures, while in the adolescent that pound is the result of increase of bone and muscle, and in the adult it merely indicates the accumulation of fat or fluid.

Every tissue of the child has its own characteristic growth pattern. In determining developmental progress of the child, examination of his body build must evaluate the degree of physiologic attainment. This means that an insight into specific tissue development may be made from the specific function in that actual growth is not measurable. It has been recognized for some time that the physiologic age of a child is not always equivalent to his chronologic age. In other words, the attainment of certain external dimensions for his age does not necessarily guarantee a central acquisition of vital tissue development. The pattern of growth as determined by simple height and weight measurements merely includes the developmental course of the whole skeleton, of the extremities, of the chest and musculature. However, these external structures do not necessarily parallel the growth of vital tissues and organs. Their course of growth is different and must necessarily be included in developmental diagnosis for the complete evaluation of the child.

The general or skeletal type of growth reveals four phases of its entire course. There is a period of rapid growth in infancy followed by an interval of regular but slow increment in early childhood. This is followed by a period of rapid preparapuberal increase, and the progression is completed by a final period of slow increment characteristic of adolescence. Other types of growth in the body have been studied by Scammon. The neural type of growth follows a different course and embodies the growth of the brain as a whole, the skull, the spinal cord, the eyeball and the pineal gland.

Following birth, each of these structures reveals an extremely rapid growth, gradually diminishing in rate to early maturity. The structures attain two thirds of their adult size by the second year of life, whereas structures that follow the general type of growth have rarely gained over one fourth of their adult size by this time. In fact, the structures following the neural type of growth attain almost adult size by the seventh year. A third group of structures that departs from the first two in its general course of growth is that of the so-called lymphoid tissues. These tissues include the lymphatic glands, the tonsils and the thymus, all of which grow rapidly in infancy, slowly during puberty and with a marked decline following maturity. These structures are extremely troublesome in infancy because of their susceptibility to infection. A fourth mode of growth embodies the genital system. Its course is negligible in infancy, latent for the first decade and markedly rapid during puberty and adolescence.

However, even these four types of growth are mere crude representations of the complexity of the processes. There still remain certain structures that fail to follow these modes of increment and exhibit their own characteristic growth trends. Some reveal combinations of these primary growth types, while others follow their own patterns. Growth in the face and neck continues to maturity. Dentition is not completed until about the twenty-first year with the cutting of wisdom teeth. What is more significant is the lack of correlation in the growth patterns of the very glands that regulate the processes of growth and development.

The thyroid gland displays steady growth from birth to maturity but assumes a larger size in regions remote from the sea where the iodine content is necessarily low. The development of the pituitary body parallels in a way the course of the thyroid. The thymus follows the lymphoid type of growth, and the pineal gland develops in accordance with the neural type of growth. The suprarenal glands, which lie at the upper ends of *(Continued on page 1048)*

As a carrier of some of the deadly diseases that follow in the wake of armies, the louse has undoubtedly played a considerable, although obscure, part in the making of history.

The BODY Llouse

Chapter VI of

Our Parasites

By CLAUDE LILLINGSTON

THE BODY LOUSE, Pediculus vestimenti, is an almost universal human parasite, whose attachment to man goes back to the prehistoric past. In the eighth chapter of Exodus, we are told that "Aaron stretched out his hand with his rod, and smote the dust of the earth, and it became lice in man and in beast; all the dust of the land became lice throughout all the land of Egypt." According to the same authority the magicians under Pharaoh's orders attempted to do likewise with their enchantments, but they failed signally.

Evidence of the existence of lice in early Egyptian times also comes from another source. Little bags of silk containing fragments of sulphur have not infrequently been found on Egyptian mummies; it is extremely probable that the ancient Egyptians exploited the louse's objection to sulphur as rationally as do doctors today. As a carrier of some of the deadly diseases that follow in the wake of armies, the louse has undoubtedly played a considerable, although obscure, part in the making of history.

The louse sometimes imposed its will on the strategy of army commanders in the World War. During the winter of 1914 and 1915, a violent epidemic of typhus fever broke out in the Serbian field; thousands of new cases occurred daily, and some 150,000 patients died. This state of affairs delayed the second Austrian

attack on Serbia about eight months. Meanwhile the Turks were suffering from a severe shortage of ammunition with which the central powers could have supplied them freely, if the route through Serbia had been open. Yes, the louse has certainly made history.

Many curious superstitions have been linked up with lice from time to time. One of the oldest and most persistent is that they are connected in some way with the fertility of their host. The fertile louse, in other words, communicates this property in some mysterious way to the woman on whom it preys; and were she to be rid of every louse, she would risk becoming barren. It is difficult to understand how this absurd superstition could have arisen and proved so unconscionably long in dying. According to another superstition the presence of lice is a sign of robust health!

The modern louse is wingless. But entomologists are inclined to credit it with a winged ancestry. The male louse is smaller and weaker than the female, being only 3 mm. (about $\frac{1}{10}$ inch) long; the female is 3.3 mm. long. Both the male and the female have a smooth, hard, chitinous, protective shell, the color of which is a good imitation of the complexion of the involuntary host. Accordingly, the natives of Western Africa and Australia are afflicted by black lice, the yellow nations by yellow lice, and white nations by lice which, in their efforts to imitate their hosts, achieve a light, dirty gray color.

The head of the louse is provided with a sharp, hollow sucker with which it punctures the skin and sucks blood. At the end of each of its six legs is a single claw, with the help of which it anchors itself to its victim's underclothing while sucking his blood. The louse is essentially sedentary in its habits; it is rare to find lice freely roaming over the body and, as a rule, a man divests himself of his lice together with his clothing.

Strange as it may seem, the louse is a delicate and sensitive creature. Reared under artificial conditions, even those seemingly most propitious, the louse tends to languish and go into a decline. Attempts have often been made to breed lice artificially so as to facilitate the study of their life history, but their delicacy is so great and their requirements are so exacting that the louse breeder has a difficult task. The temperature the louse prefers is only a little lower than that ordinarily maintained by its host; when the host's temperature rises with fever or falls after death, the louse is gravely inconvenienced.

Under ideal conditions for herself, the female louse lays about 300 eggs and may have as many as 4,000 descendants in her lifetime. She deposits the eggs in the clothing and, if the temperature is suitable, they hatch out in from seven to ten days. Emerging from the egg, the larva proceeds to feed at once, molting at intervals of about four days. After three molts, the mature form is reached, and sexual maturity is attained about a fortnight after hatching.

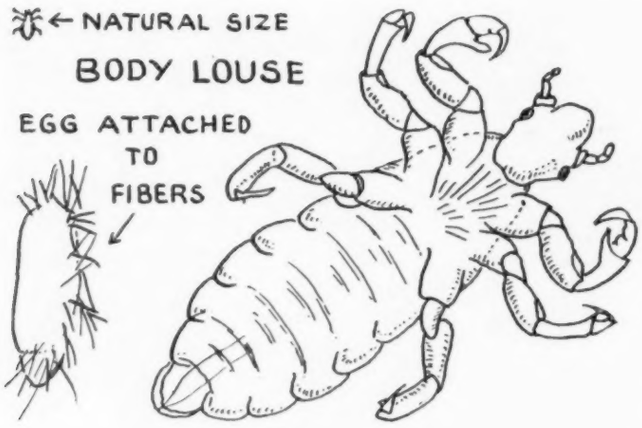
The normal duration of life of a louse is only a month or a little more. The vicissitudes of its checkered career, however, are such that this estimate must be regarded as being only loosely approximate. If it were not for the louse's remarkable fertility, it would long ago have been stamped out. It is not only fertile in reproduction; it is also fertile in resourcefulness, witness its adaptability in circumventing measures devised for its discomfiture. It is even capable of crawling up to the surface after burial in several inches of dry sand or earth, and it will seize the first opportunity to find a new lair if it is shaken out of clothing on to the floor.

Rough wool or flannel clothing is preferred by the louse, but if necessary it will attach itself to silk. It is, however, a common experience that wearing silk next the skin is at any rate a partially successful measure against lice. The slipperiness and lack of rough fibers in silk on which to lay eggs probably account for this phenomenon, for when a female louse wants to lay an egg, she clings to a hair or a thread and deposits a drop of liquid cement on it. The egg is then laid and becomes firmly cemented to the hair or thread. The entire operation takes about seventeen seconds, after which the louse goes on her way rejoicing.

The egg is more resistant to adverse conditions than the delicate larva or the adult. This point is of great importance in connection with the treatment of infected clothing. The louse itself can live only a few days without food; the lower the temperature, down to a certain point, the longer it will live, but even at such a low temperature as 5 C. (41 F.), the louse that has to fast cannot live more than ten days. The eggs may take a month or more to hatch out in discarded clothing. The oval, dirty-white or yellowish egg is only barely visible to the naked eye; and as only one is laid at a time and in each place, the eggs easily escape detection.

In the act of feeding, the louse depresses its head till it touches the skin, tipping up the hinder end of its body at the same time. An entomologist, who was dexterous enough to cut off the head of a louse while it was in the act of feeding, found that the louse had actually thrust its proboscis out of its head. Whether or not it chooses the opening of a sweat gland for its point of operation, the process is one of patient boring until a blood space is reached. As soon as blood has been struck, the pumping apparatus in the head is set to work, and the louse's head is literally flushed with the blood of its victim.

A full meal not only distends the abdomen but also changes its color; the young louse, with



its comparatively transparent body, appears as a small, pink spot. As fresh blood flows in at one end, remnants of a previous meal are discharged from the other end, and the louse's greediness may reach such a pitch that undigested blood is discharged behind in order to make room for more in front. This behavior would not be any worse than a deplorable exhibition of bad table manners, did not the alimentary canal of the louse sometimes harbor germs which, escaping with the motions and entering the skin opened by the bite of the louse, may infect its host with some deadly disease such as typhus fever.

The ailments and diseases for which the louse is responsible are numerous. The first ailment is sleeplessness. Persons to whom lice have become second nature learn to ignore their bites. But sensitive-skinned persons who had been reared in cleanliness often suffered torture during the World War from louse bites which kept them awake, not so much because of the actual pain as because of the indescribable feeling of disgust which the presence of lice on one's person arouses. The diseases with which the louse may infect its victim include typhus or jail fever and relapsing fever. The louse is suspected of conveying several other diseases, all more or less serious.

The case against the louse as far as typhus fever is concerned is particularly damning. Its study took a new and quite revolutionary turn in 1909, when Nicolle and his colleagues discovered the part played by the louse as the carrier of the germs of this disease. He showed that chimpanzees could be experimentally infected with typhus fever if they were inoculated with the blood of a patient who had recently contracted this disease. In the same year, Nicolle found out that lice living on animals suffering from typhus fever could transmit this disease to healthy animals simply by their bites. This discovery has completely revolutionized the campaign against typhus fever.

For many years the louse has been considered as the one and only carrier of this disease, and attention has been concentrated on this parasite with such remarkable success that epidemiologists have been tempted to settle down to the comforting axiom: No lice, no typhus fever. In late years, however, doubts have been raised on this point, and certain other parasites have come under suspicion as acting as reservoirs of germs of typhus fever between epidemics of this disease. The demonstration of the existence of such animal reservoirs would do much to explain the difficulties that have sometimes been experienced in completely stamping out typhus fever in certain localities.

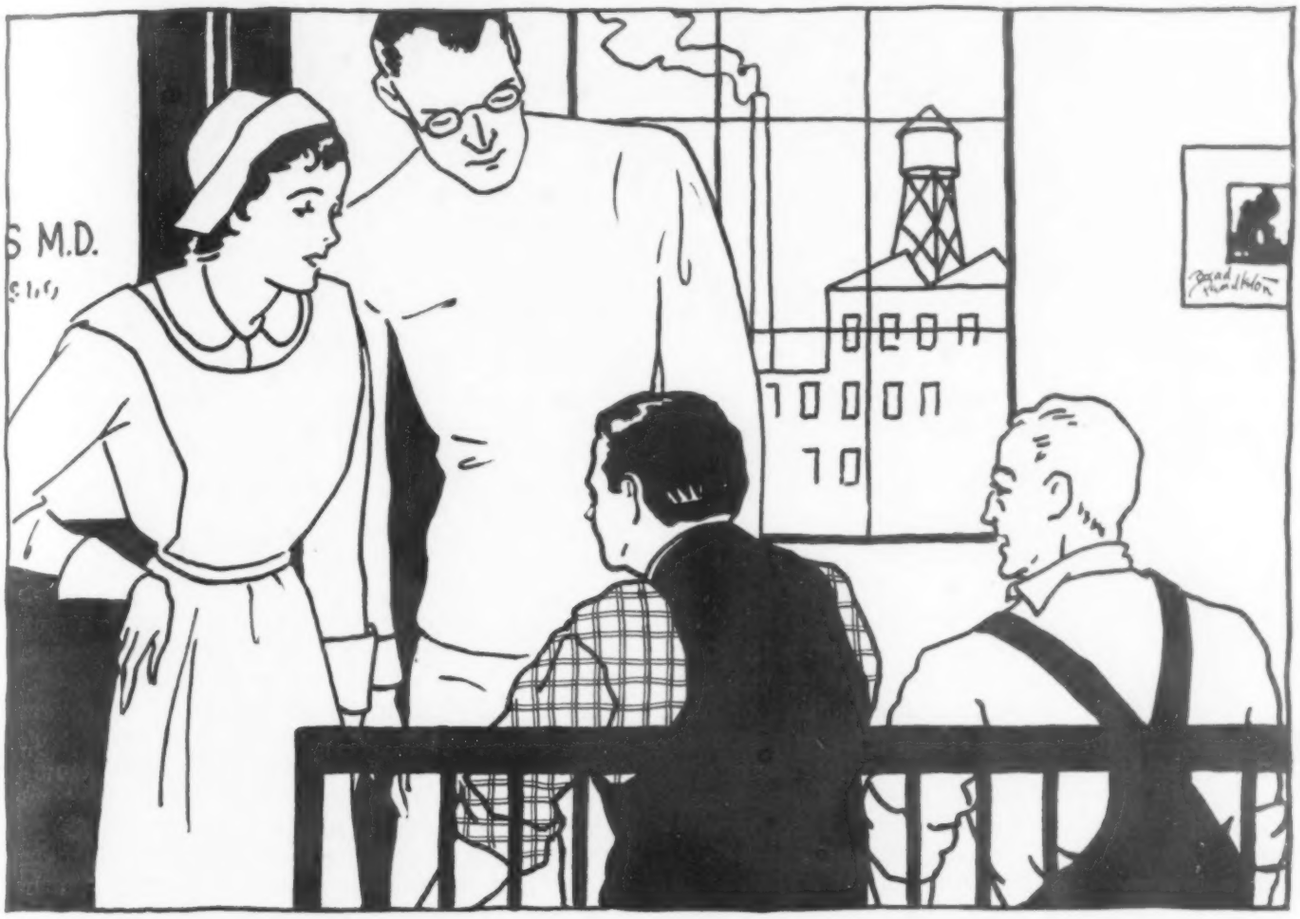
While the mosquito infects its victim at the moment of biting, the organisms of malaria passing directly from its head through its bite into its victim's skin, the louse infects from the other end. The excreta of infected lice are, indeed, so dangerous that even when they are rubbed into skin that is intact, they will provoke typhus fever. The most obvious portal of entry, however, is the point where the skin has been bitten; and the entry of infected matter is, of course, facilitated when the victim scratches his bite. Various skin diseases help to swell the list of ailments for which the louse must be held responsible.

The secret of success in a campaign against lice is a sound working knowledge of their frailties. They love a warm, even temperature and frequent and fairly regular meals. Evenness of temperature is assured by constant contact with the human body. The person who wears the same garment night and day is simply asking for trouble. Frequent, complete changes of clothing, punctuated by as many hot baths, are bound to make life intolerable even for the most pertinacious of lice.

The so-called insect powders are said to have no terrors for lice; one observer reports seeing lice crawl around for days in a box of such powder. Sulphur is a more effective deterrent, as it introduces a peculiarly discordant note into the life of the louse. During the World War, sulphur bags were worn by many of the soldiers with signal success. It is not known exactly how the sulphur acts; it is possible that the new compounds it forms in contact with the body are those to which the louse has a lively objection. The wearing of bags of sulphur next the skin, night and day, carries with it the objection that the metal of such things as buttons and watches becomes tarnished.

Once lice have secured a footing in clothing, vigorous and systematic measures must be taken for their extermination. In central Asia there is a rather picturesque procedure which consists of undressing and leaving one's clothes on an ant-hill for several hours. In due course the ants have made a clean sweep of the lice. But ant-hills are not always available, and this process sounds too tedious and chilly for the average mortal. Burning or burying are summary measures to be recommended if the infested clothing is worthless *(Continued on page 1016)*

POISONING IN INDUSTRY



The need of a physician and a nurse to care for the health of workers in factories where hazardous work is done is especially great.

By

ANNETTE FISKE

THE DANGERS inherent in the poisonous trades are very real, and the need of a physician and a nurse to care for the health of the workers in factories where hazardous work is carried on is especially great.

First of all, there are those who are not fit for such work because of constitutional defects. Nephritis, which damages the kidneys, makes elimination of poisons more difficult, while anemia adds to the dangers of poisoning by lead, benzine, aniline, and similar substances because these poisons themselves cause a loss of red cells. A tendency to tuberculosis or heart trouble will also unfit a person for such work.

There are many other considerations that have a bearing on the liability of workers to poisoning, among them being race. It has been found that Negroes, although especially resistant to poisons that affect the skin and cause eruptions, to dye intermediates and coal tar dyes that enter through the skin, and to such irritating chemicals as mustard gas, are more susceptible than white men to lead poisoning.

Sex also has a bearing on the problem, for women are more susceptible than men to some poisons. Lead, for example, affects them more quickly and more severely. The rate of plumbism is generally twice as high among women as among men workers, although one must bear economic conditions in mind, for often men are more highly paid than the women, thus increasing the danger for the women. Women are most susceptible to plumbism between the ages of 18 and 23, while men are most susceptible later in life. Women are also more susceptible than men to sulphuric ether poisoning.

Those who are acquainted with the general rule that the younger the patient, the smaller the dose of a drug should be, will not be surprised to learn that boys and girls are more susceptible than adults to poisons. This fact

Girls doing such harmless work as labeling paint cans in a clean room may be poisoned by dust or fumes entering from an adjoining room where such poisons as white lead are being used.

is well recognized in industry abroad where there are laws to prevent the employment of minors in certain of the poisonous trades. Among the occupations which should be forbidden women and all workers under 18 years of age are the production and use of solder with more than 10 per cent lead, the melting of lead or zinc scrap on a large scale, mixing and pasting in making or repairing storage batteries, and the cleaning of rooms in which lead smelting and refining, zinc smelting or the preparation of oxides, lead colors or lead enamels or glazes is carried on.

Aside from such general differences as those already mentioned, individual persons differ greatly in their susceptibility to poisons, and there is no judging by their general health whether or not they will prove susceptible, for the strongest may succumb the fastest. Thus, one man, starting when he was a boy of 12, worked for thirty-two years in a dusty plant where white lead was produced but was never affected by the lead dust. Another man of good physique became sick at the end of two weeks spent in the same plant and was dead of plumbism in less than six months. In a large group of workers there is always some one in whom poisoning will develop from small amounts of poisonous dust or vapor that affect none of the other workers, and it is hard to make employers realize this fact.

Poisoning takes place most often through the inhalation of dust or fumes, although it may also be the result of absorption through the skin, and much more rarely of ingestion. In the case of lead, for example, poisoning by ingestion is almost wholly confined to workers who color photographs with lead paints and put their brushes into their mouths to point them. The great danger is from lead dust and fumes, and the toxicity of lead compounds depends on their dustiness. Therefore, it is not always necessary for the person to be actually working with the poison, as the dust or fumes may enter a clean room where harmless work is going on from an adjacent room where the poison is being used. Thus, a girl labeling paint cans in a clean room was poisoned by the white lead dust that was sometimes blown in through a door leading from a room in which white lead paint was mixed in an open container.

As heat hastens chemical action in general, so it hastens the action of poisons. In hot weather or as the result of heat in factory rooms, the blood vessels on the surface of the skin become flushed, causing profuse sweating, and the absorption of such poisons as enter through the skin is thus aided. Any hot, moist atmosphere has this effect whether caused by hot, humid weather, by heat from furnaces or by steam from tubs and tanks.

The amount of poison absorbed, whether through the lungs or skin, will also depend on the hours of work daily. Long working days offer more opportunity than short days for the absorption of poison, and the fewer the hours of leisure, the less time there is for elimination of the poison. Therefore, overtime work is distinctly dangerous in the poisonous trades, and sufficient time should be allowed between shifts for elimination of poison absorbed during working hours. The weekly holiday is also a help in such elimination. Naturally a man will absorb more poison in ten hours than in eight and, similarly, will eliminate more in sixteen hours than in fourteen. What is said to be the first legislative measure of industrial hygiene was a law passed in 1665 in the old province of Friuli setting six hours as the length of the working day in the quicksilver mines because of the

incidence of poisoning. Of course, some individuals can eliminate poisons faster than others.

As drugs given to cure illness are absorbed more rapidly when taken into an empty stomach than when taken after a meal, so it is with industrial poisons. The English learned years ago that the best preventive of lead poisoning was the presence of food in the stomach, and it is their custom to supply workers in lead and in aniline dye with a cupful of milk or cocoa free the first thing in the morning and occasionally in the middle of the forenoon and afternoon. A wholesome, hot noon meal also helps to keep up nutrition and serves as an aid against poisoning, because lowering the nutrition of the body lowers the resistance to poisons. The use of alcohol, although not as harmful as it is sometimes supposed, favors plumbism and has a decided influence in poisoning by mercury, nitroglycerin, aniline, nitrobenzene and other coal tar products, greatly favoring palsy in mercurialism and the cerebral symptoms in the other kinds of poisoning.

When the inhalation of fumes or dust is the cause of poisoning, the prevention of these should be the first consideration. This is even more important than good washing facilities and lunchrooms, for there is nothing in the line of a comfortable respirator or mask that is wholly effective in preventing the entrance of such dust or fumes into the respiratory tract. Moreover, particles of dust are liable to become caught around the edge of the respirator and lead, in some cases, to the formation of ulcers or boils. If used throughout the working day, an effective mask would be uncomfortable, and workers would not endure them. Therefore, the air must be rendered as safe as possible by means of ventilating flues and such devices. Masks and respirators, as a means of protection, should be kept for emergencies only.

In the case of poisons that enter through the skin, cleanliness of person and surroundings is most important. As much of the skin as possible should be kept covered with clean clothing, and the parts necessarily exposed should be protected by coating them with a mild ointment, by dusting them with powder or by frequent washing. In the last case, however, it should be borne in mind that frequent washing may injure the skin. Only mild soaps should be used, scrubbing should be avoided and the natural oil removed in the process should be replaced with some animal fat. Gloves should be avoided, because they make the skin of the hands moist and soft, thus favoring poisoning, and because even a tiny hole will allow the entrance of poison, which will then be held in contact with the skin.

As dusts may be transferred to the mouth and so enter the digestive tract, there should be a special lunchroom in plants where this danger exists; careful washing should precede eating.

Of course in most of the poisonous trades, the poisons used are essential, and all that can be done to protect the workers is to use such mechanical means as have been mentioned and watch carefully for any signs of poisoning so as to remove the worker from danger before a serious stage of poisoning is reached. Prompt removal from some poisons, such as zinc, may cause the symptoms to disappear entirely. In the case of others, such as nitroglycerin, a certain tolerance may be gained at work, although this immunity may be only temporary and may be lost during a short vacation. Other poisons, such as arsenic and mercury, are eliminated from the body slowly, perhaps not for two months or more. In these cases symptoms will persist, and injury is more liable to be permanent. Poisoning is not infrequently the result of accidents, as when a chemical is spilled on clothing and is absorbed or evaporates so that it poisons through its fumes. Care will prevent such accidents. In cases in which the poisons used give rise to anemia, blood examinations are important; a rise in blood pressure also gives warning in other types of poisoning.

Methyl alcohol, one of the most deadly poisons used in industry in this country, can hardly be looked on as an industrial poison abroad, as denatured grain alcohol has for many years been used in other countries almost entirely in its stead to eliminate the danger of poisoning. Yet it has been stated that in the United States 2½ million workers were exposed to methyl alcohol in their work in 1915. Methyl alcohol, which has the advantages of being a better solvent of some substances and of evaporating more rapidly than ethyl alcohol, has become so firmly established in industry here that it is difficult to get it replaced by denatured grain alcohol even where that would serve the purpose as well.

The National Society for the Prevention of Blindness and the Danbury hatters succeeded in getting denatured alcohol for use in industry put on the free list in 1906, thus bringing down the cost, which had been considered prohibitive. However, the percentage of methyl alcohol used to denature the grain alcohol in this country is so high, usually from 10 to 20 per cent, that danger of poisoning remains, and the harmless 2 per cent denatured alcohol used abroad is seldom used here. Shellac sometimes contains as much as 52 per cent of methyl alcohol. The trade showing the greatest advance along this line of changing to less poisonous substances is the match industry, in which the extremely poisonous white phosphorus used for many years has been replaced of late by red phosphorus and by the sesquisulphide of phosphorus, which are nonpoisonous. The change was made abroad earlier than in this country, where it was delayed for some years because of the extra expense involved.

The Doctors of Dickens

Dr. Lumbey attended the sixth confinement of Mrs. Kenwigs with a two day beard on his face, since in the prolific neighborhood of his practice no less than four door knockers had been muffled with kid gloves within the previous forty-eight hours.

By MARION WEFER

THE TALE is told of a doctor who was forced by the entreaties of a slowly dying patient to tell him the probable number of his days. As the physician reluctantly did so, what was his amazement to hear his patient gasp out, "Thank God! Pickwick will be out before then!" Stout soul! Let us hope he went bravely to his end cheered by a final chuckle at the vagaries of the members of the Pickwick Club, immortal creations of the magic pen of Charles Dickens.

Those dear, delightful, familiar and fantastic folk of Dickens, how he made them live for us! Rich man, poor man, beggar man, thief, he knew them all and drew them for us in a series of unforgettable portraits. And you may be sure he did not forget the next to follow in the old nursery rhyme—the doctor. At the beginning of life and at its ending, among the high and the lowly, sharply summoned by emergency or rolling in their carriages to attend the nervous vapors of delicate dowagers, Dickens has captured doctors aplenty between the covers of his novels.

Dr. Lumbey attended the sixth confinement of Mrs. Kenwigs with a two day beard on his face, since in the prolific neighborhood of his practice no less than four door knockers had been muffled with kid gloves within the previous forty-eight hours. This genteel gesture, be it known, was the accompaniment of every truly correct confinement in Dickens' day. Dr. Haggage ushered Little Dorrit into the world of the Marshalsea Prison for Debtors. Dr. Haggage had been at one time the experienced surgeon of a passenger ship but fell on evil fortunes which brought him to port in the Marshalsea. Philosophically, he found it a haven of peace from a world that badgered a man and hammered on his door.

At the other extremity of existence one can observe the professional tact with which the doctor and the undertaker agreed to ignore each other's existence at Anthony Chuzzlewit's funeral.

In the aristocratic mansion of Mr. Dombey, Dr. Pilkins, the family practitioner, bobbed obsequiously at the elbow of the great Dr. Parker Peps. With what unction did Dr. Pilkins interpret to the family the incorrigible tendency of the court physician to christen Mrs. Dombey "The Countess of Dombey" or "Lady Dombey" by an awed reminder of "Dr. Parker Pep's West End Practise . . . so very numerous"; a West End practice was the equivalent of a Park Avenue following in these days. Akin to him was Sir Tumley Snuffim whose favorite patient was the fragile Mrs. Witterly. Sir Tumley diagnosed her complaint as "Soul" although her body had the hardihood to survive a new medicine supposed to have destroyed a family in Kensington Gravel Pits. Sir Tumley and Dr. Wosky would have found themselves in perfect professional accord could they have been called in consultation, one from the pages of "Nicholas Nickleby" and the other from the "Sketches by Boz." Dr. Wosky humored the fancies of his large female following by enjoining them to take stimulants and plenty of nourishment and above all not to give way to their sensibilities. They pronounced him a charming creature and cosseted themselves accordingly.

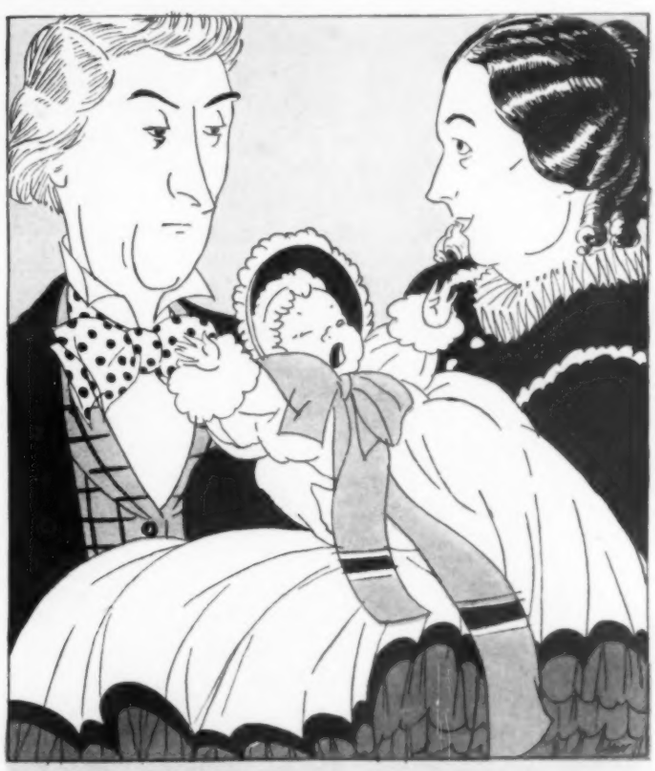
Ministering among the lowly was the kind Allan Woodcourt who dressed the wounds of the wife of a brutal bricklayer in the sordid streets of Tom-All-Alone's and eased the last moments of the waif, Jo, who was always kept "moving on." Dr. Woodcourt also attended mad little Miss Flite, who in gratitude announced that she would confer an estate on him shortly, when she was granted a judgment on the Day of Judgment. Dr. Marigold the Cheap Jack, or pedler, was so named in tribute to the physician who attended his mother in her accouchement on the King's highway, taking only a tea tray by way of fee. Dr. Losberne, perpetually astonished that robbery should occur in the middle of the night, was the staunch friend and champion of the foundling Oliver Twist. Most gracious of all is the doctor in "Little Dorrit" whom Dickens simply calls "Physician." Of him he says, "Few ways of life were hidden from Physician, and he was oftener in its darkest places than even Bishop. He went, like the rain among the just and unjust, doing all the good he could, and neither proclaiming it in the synagogues nor at the corners of streets." And "Physician" has many a modern counterpart.

In "David Copperfield," the novel which was largely autobiographical, we meet mild little Dr. Chillip who brought David into the world and so enraged the redoubtable Betsey Trotwood by announcing the birth of a nephew instead of the desired niece that she assaulted him with her bonnet; patient little Dr. Chillip who was confronted each Sunday in his pew by a tactless tombstone reminding him that in the case of a certain lamented gentleman "Physicians were in vain"; anxious little Dr. Chillip who, when David visited him as a grown man with a literary reputation, was vastly solicitous about the intense excitement to which he believed David's creative brain must be exposed!

Dr. Alexandre Manette in "A Tale of Two Cities" commands compassion and deep interest. This unfortunate physician was recalled to life from a long imprisonment in the Bastile, which he had incurred through his own humanity. Drawn later into the maelstrom of the French Revolution, he was saved from the guillotine by the sacrifice of Sydney Carton who loved his daughter.

Readers of "Our Mutual Friend" breathlessly watch a doctor working untiringly, indomitably over the sodden body of the half drowned Rogue Riderhood. The crowd watches every motion of the wooing back of the flickering life while a bottle-nosed old-timer protests that the patient should be hung up by the heels "Sim'lar to mutton in a butcher's shop" and rolled on casks to promote easy respiration.

Nor was Dickens unmindful of the medical student, or "Sawbones in training," as Sam Weller expressed it. Bob Sawyer and Benjamin Allen of Guy's Hospital, London, emerge from the pages of "Pickwick Papers"; they were an



"Is my son a nutmeg, that he is to be grated on the stiff edges of sharp frills?"

uproarious pair who enlarged the innocent Mr. Pickwick's knowledge of life considerably when they invited him to a select party of medical students at their lodgings. However, that delicate minded gentleman hushed them hastily in the interests of the ladies at the breakfast table when they grew too eloquent over the delights of dissecting. It was Bob Sawyer who purchased the practice of the late Nokemorf of Bristol and settled down to a snug business. To his dismay he found that he had an extensive, a very extensive practice, but that its profits might be put in a wine glass and covered over with a gooseberry leaf. And this in spite of a dozen ingenious devices for publicity which he and his partner contrived! They kept up appearances in their neat little surgery with its counterfeit drawers and had scarcely anything real except the second-hand leeches. They eventually did well in getting surgical appointments to the East India Company.

Sam Weller tells of another doctor who maintained economy and dignity at the same time by having a portable flight of carriage steps which he could let down and pull up after him as he popped in and out on his visits. This kept the coachman on his box and prevented the public from knowing that although he wore a livery coat he did not have trousers to match.

Of the few nurses in Dickens' books, Sairey Gamp and Betsey Prig stand as regrettable examples. They were ignorant, intemperate, uncleanly and everything that the modern nurse is not; but viewed from the safe perspective of years, they were extremely funny, as for instance in the notes that passed between them:

"The pickled salmon is quite delicious. Don't have nothink to say to the cold meat for it tastes of the stable. The drinks is all good. The easy chair an't soft enough. You'll want his piller," meaning, of course, the patient's "piller." And, "Betsey Prig, try the cowcumbers, God bless you!"

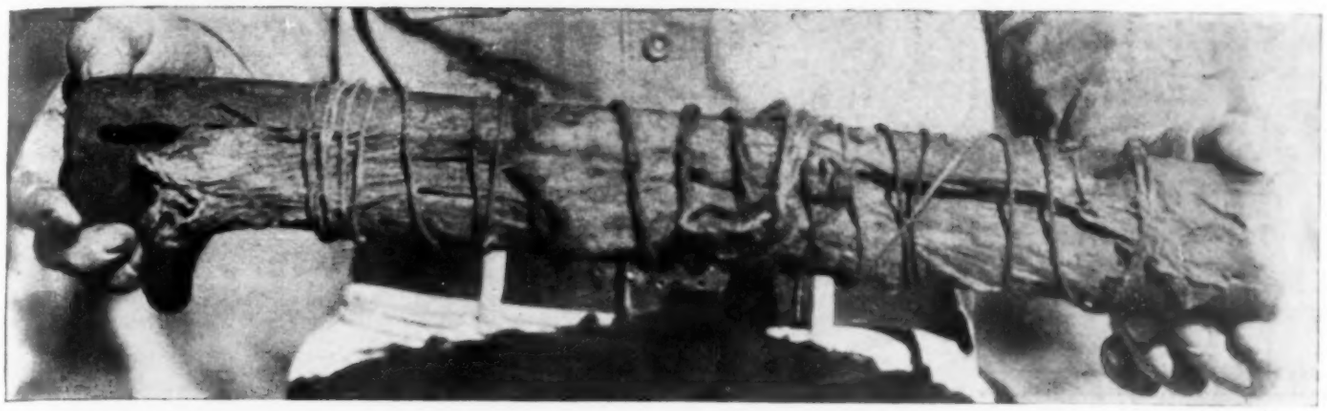
In his preface to "Martin Chuzzlewit," the author does the nursing profession the justice to say that it has greatly improved through the agency of good women since the days when Mrs. Gamp and Betsey Prig were representative of the hired attendants on the poor in sickness. I wish the good Charles Dickens might visit a modern training school or see the visiting nurse in her rounds among the homes of the sick poor today. It would delight his humanitarian heart to note how far the profession has advanced since the days of his snuffy Sairey and the bibulous Betsey.

A devoted father, Charles Dickens had his own ideas of infant hygiene far in advance of an age that swaddled, coddled and dosed immoderately with Daffy's Elixir. In a serio-comic paper among his "Reprinted Pieces" he demands to know why light and air are excluded from babies like poison and why a provision of flannel sufficient to carpet the house is necessary, or such a bristling battery of pins as if the newly arrived infant were a criminal to be put to the torture immediately. He is distressed by the fettering of the tiny limbs in yards on yards of cloth and asks indignantly whether a child is a nutmeg to be grated on by the stiff edges of sharp frills. Again I wish that his kindly eye could rest on our modern babies, happy in the freedom of their tiny sun suits.

In the papers of "The Uncommercial Traveler" is a touching description of the East London Children's Hospital situated in an old sail loft by the river's bank in Ratcliff. It had thirty-seven beds, and the ward's most popular visitor was a small mongrel dog who made his rounds from bed to bed and even hopped on the pillows of the patients. How today's head nurse would shriek with horror at that outrage to hygiene! With the help of a small staff the hospital was maintained by the sacrificial labor of a young physician and his wife. A number of the workers gave their services voluntarily; and being resident at the hospital, they were as much put to shift for room as passengers on board ship. It is probable that the description of the children's hospital in "Our Mutual Friend" was drawn from this source. Mrs. Boffin's hapless orphan Johnny died there because his grandmother, in abhorence of charity, had delayed his admission until he reached the hospital's kindly care too late. It is interesting to note in this connection that in the postscript to "Our Mutual Friend," Dickens commends *The Lancet's* exposures of the heartless administration of the Poor Relief laws.

In his American notes it is characteristic of the beloved Boz to see the intense interest he took in American hospitals, asylums and institutions of relief. He visited them wherever he went and wrote in glowing terms of Dr. Howe of Boston for his remarkable success in the patient training of the blind deaf-mute Laura Bridgman and a young boy similarly afflicted. In his concluding words to his American cousins, the advice of Dickens relative to public health can still be read with profit. He says in part, "After conversing with many members of the medical profession in America, I am not singular in the opinion that much of the disease which does prevail might be avoided if a few common precautions were observed. The custom of hastily swallowing large quantities of animal food, three times a day, and rushing back to sedentary pursuits after each meal, must be changed; the gentler sex must go more wisely clad, and take more healthful exercise."

So, as the Atlantic widened between America and Dickens when he returned to the London which he had peopled with his own creations, one of his last cautions comes in the words of his own Mr. Toots: "Remember the medical man! Pray remember the medical man!"



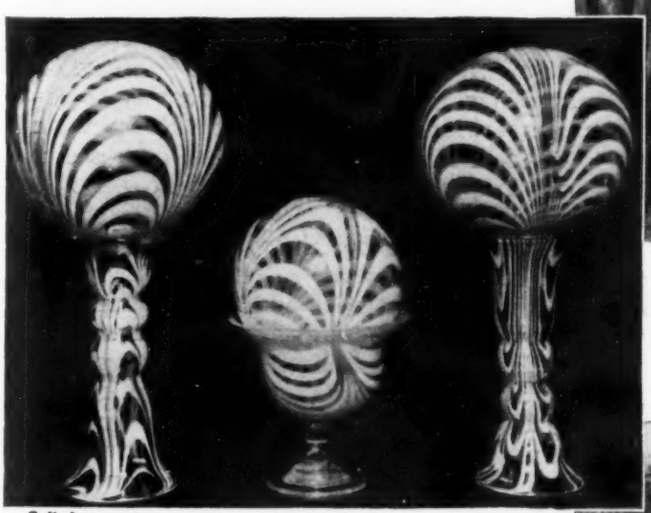
Acme

The family physician of 3069 B.C. carried this medicine kit containing feathers of thirty varieties of birds, medicinal seeds and roots and some wood implements. It is a relic of the Basket-Makers of Utah.

"Medical" Modes in a Changing World

Galloway

This native of Peking treats his dental patients in the streets without the use of anesthetics.

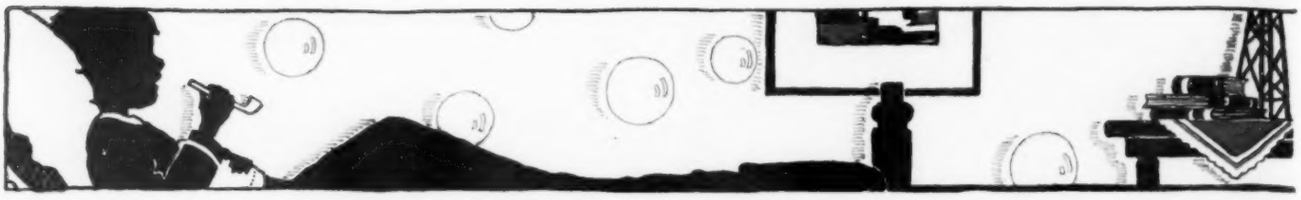


Soibelman

The pair of "witchballs" and holders and the ball and bowl are of aquamarine glass with loppings of white. In the nineteenth century, they were placed in windows to attract disease germs.

Thompson

The medicine man of Nigeria makes mysterious passes over the patient. Medicine is in the water-buck's horn which is placed over the diseased part.



Amusing Quarantined Children

MOTHER was at the telephone. "Yes, Charles is better, but he is so restless I don't know what to do with him. The doctor says he must stay in bed three weeks because of his heart, and of course the other children can't go in. Being quarantined is terrible!"

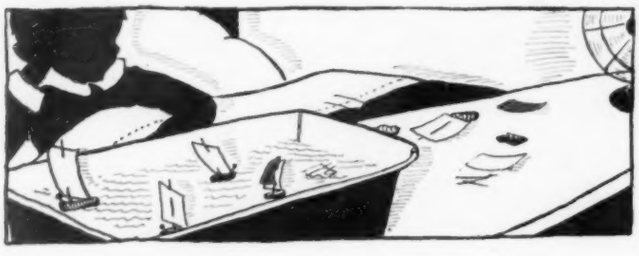
"I wish there was something I could do to help you," the neighbor to whom she was speaking said wistfully. "If you can think of anything, don't hesitate to call me."

In so many similar cases, convalescence is the most dreaded part of quarantine with children. As soon as the acute part of the disease subsides, the active child begins that plaintive query, "Please, may I have something to do?" Nothing is so pathetic as a child with nothing to do. If he only had a fly to watch, it would be better than nothing.

The putting up of the quarantine sign usually means from two to four weeks of isolation, and the person caring for the child must be entertainer as well as nurse.

The quarantine period is a good time to use your neighbors. They call and offer their services and they are sincere. There are many things that they can do, and you need not feel that you are under any obligations, for there is a law of averages in life that will always give you a chance to repay these kindnesses if you are observant. The neighbor children frequently have outgrown or discarded toys that they will be glad to pass on. If your child is old enough, they will send magazines that you do not have.

In selecting toys be sure that they can be either boiled or burned after the quarantine is over. Metal building sets afford great amusement and can be boiled. Many children who could amuse themselves by reading may not be allowed to do so because of the dangers and difficulties of disinfecting books.



As early in the disease as possible, put up a mail box outside the door. A shoe box with a slit in it does very well. Soon every playmate on the street will be putting something in it.

A hanging garden will keep up a continued interest. Paste a strip of adhesive tape ½ inch wide on opposite sides of a large jelly glass and let it extend 1 inch above the edge of the glass. Cut a small hole in the adhesive, pass a string through it and hang the glass in the window. In one glass put a carrot, in another a sweet potato and in a third a parsnip, and fill the glasses with water. Prepare three smaller glasses in the same way, putting a layer of dampened cotton in the bottom of each. Then put in corn, lima beans and peas. The roots will grow down between the cotton and the glass, and by the time the quarantine sign comes down, the garden will have attained considerable growth. If the child is 6 or 7 years old, the nurse has an excellent opportunity to give some simple lessons in botany: From which parts of the bean do the roots and leaves start, how do the leaves breathe and how do the roots take a drink?

If the patient is a boy, he will be much interested in making a weather chart. Mark off a sheet of white poster board into squares for thirty days as on an ordinary calendar. Use a yellow disk for bright, sunny days, a gray disk for cloudy days, black for rain and red for storms. This can be checked up each day after the evening meal.

A bedside pocket-rack saves time and steps and gives the child a bit of independence. This is a strip of cloth, preferably bright colored, with a number of large patch pockets and can be fastened across the head of the bed or on a screen brought close to the bed. In these pockets put clean handkerchiefs or paper napkins, bubble pipe, paste pot, pen knife and all those things that a child wants close at hand. Fasten the scissors to the bed by a long tape because they have a way of slipping in among the bedding and being lost.

Never permit a child who is recovering from an acute disease to piece quilts. The eyes carry their share of the body weakness, and the strain of sewing is too great. Much eye trouble can be traced to the "nine patch" made during convalescence from scarlet fever. Following measles,

By

LENA DIXON DIETZ

children's eyes are often sensitive to light. Do not keep the shades down, for the child needs the light and sunshine, but put colored glasses on him and he will think it is fun to wear them.

An ironing board set up so that it extends over the bed makes a substantial work table for the child. The lid from a drop-head sewing machine may be used the same way.

Paste made from half flour and half cornstarch will be smooth. Add a few drops of carbolic acid to prevent its souring.

The age of the child is an important factor in deciding what form of amusement will best hold interest. The following list gives a wide range of adaptability.

Blowing bubbles is a simple pastime requiring a minimum of preparation, merely a clay pipe and a bowl of soapy water being necessary. Cover the bed with a woolen blanket as the bubbles roll better on wool. Add a little glycerin to the water to increase the surface tension of the bubbles, and a little laundry bluing to give all the colors of the prism.

A child of almost any age will show surprising ingenuity in a fleet of boats made of peanut shells. Place a bread pan half full of water on the ironing board. Then use peanut shells for boats and toothpicks and paper for sails. Use soaked peas and more toothpicks for the sailors and small stones for the islands. Turn on the electric fan at the far end of the ironing board, and the fun begins.

A doll house can be made of four hat boxes fastened together to make a living-room, dining-room, kitchen and bedroom. The furniture can be made of the two sizes of match boxes.

If there is a holiday or a birthday during this illness, it should be joyously celebrated.

Another consideration is the window picture. There may be pictures of animals, flowers, airplanes, butterflies or anything in which the child is interested. Waxed paper window pictures are especially effective. Outline a fish bowl on a large piece of dark paper. Carefully cut around the outline and cover the hole with waxed paper. On this paste some paper goldfish, as well as some leaves at the lower edge. Draw a water line with a crayon and paste the picture against the window pane.

The small child will enjoy having the room decorated with the paper chains made in kindergarten. The primary teacher will be glad to advise as to where one may buy the materials.

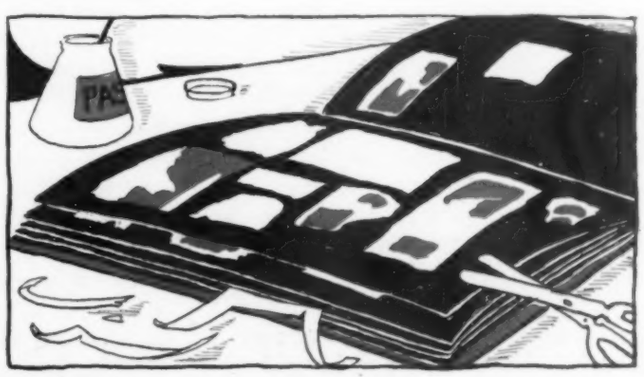
Commercially made jig-saw puzzles are rather tiring to the nerves and are too much strain on the eyes of a convalescent child. Cut full page colored advertisements from magazines and paste them on thin cardboard. The kind that comes in laundry packages is excellent. When these have dried, let the child mark them off into squares. Trace the squares on an unthreaded sewing machine and tear them apart along the perforations. Keep the puzzles in labeled envelopes.

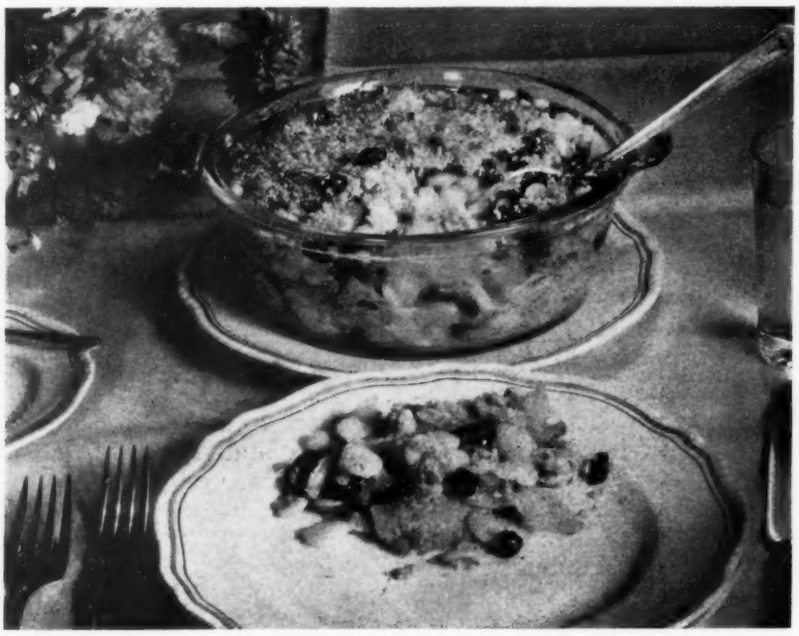
If the child is of school age, the teacher will be delighted to announce that the child in isolation is having a card shower on Saturday, all letters to be put in the private mail box.

A picnic can be given toward the end of the illness when the diet is general. Paper plates, cups, spoons and the usual picnic menu with lemonade or cocoa in a vacuum bottle may be brought into the child's room all packed in a basket.

If their interest is directed into some definite aim, all children like to make scrap-books, but they soon tire of merely cutting out pictures. A "Noah's Ark" can be made by cutting out animal pictures. When friends call to inquire about the little patient, let them know that he is making a scrap-book and they will send magazines that you may not have. An older boy will be interested in making a travel book, and an older girl will like to make a cook book. If the illness occurs in February or March, when the seed catalogs come to the home, a flower garden or a vegetable garden can be designed on a large poster board. Flowers and vegetables are cut from catalogs and magazines and put in place to form a garden.

Story telling is a real asset in amusing sick children. When they are too ill to do much, they can listen to stories. Suitable motion pictures that are vividly recalled make easy stories to tell. Stories of American history and the life histories of insects and animals interest most children. Bible stories, especially those of the Old Testament, are great favorites. If the child is old enough to have had some geography, a little map sketching will add to the interest.





VEGETABLES EN CASSEROLE

1 No. 2 can lima beans (2 cupfuls)
2 cupfuls sliced carrots
½ cupful grated American cheese
½ cupful grated soft bread crumbs
½ cupful seedless raisins
Salt
Pepper
2 tablespoonfuls butter

Place half the carrots and lima beans in bottom of casserole. Add half the raisins. Sprinkle with salt and pepper. Combine bread crumbs with cheese, and spread half the amount over the raisins. Add remaining carrots, beans and raisins. Season with salt and pepper. Cover with crumbs, and dot with butter. Pour liquid from beans over all. Bake about thirty minutes in a hot oven (400 F.).

SELLING to the

HIGH pressure salesmanship should have no place in selling vegetables to the family, for it develops sales resistance. The logical and successful way is to make those vegetables so attractive that they literally sell themselves. The process includes selection, preparation, cooking, garnishing, serving and finally eating, which is the chief end, for the housewife feels that the family needs the vegetables.

As a class, vegetables are valuable in maintaining the alkaline balance in the body. They are valuable for their cellulose, which is a natural and effective laxative. They furnish the minerals much needed for building teeth and bones. They are valuable not only for their calcium, phosphorus and iron but also for copper, iodine, aluminum and other minerals found in some of them as mere traces.

Vegetables as a class are good sources of vitamin B. Those which are yellow in color are good sources of vitamin A, as are many of the green vegetables. Vitamin C is also found in many vegetables, especially if they are fresh. Vegetables should not be considered among significant sources of vitamin D.

The green vegetables are richer in vitamin B than those which are blanched, as celery, head lettuce and cabbage. Vegetables grown in outdoor sunshine are best.

The vitamin C value of a vegetable varies with its age, a considerable part of the potency being lost with aging. Whenever it is possible to do so, young and tender vegetables should be bought, for they are better from this standpoint, and their greater palatability promotes their more ready acceptance by the family. Marketing for vegetables is a serious matter, since fine quality in vegetables is most apparent, and it is a most difficult matter to make vegetables palatable which are stale, tough and woody or of the less flavorsome varieties.

The fresh, tender vegetables from the farmer's wagon or from one's own garden are at once cleaned; and if they are to be stored before cooking, they are placed in the vegetable container of the refrigerator which affords sufficient moisture as well as low temperature for keeping them crisp and fresh.

Vegetables are not soaked in cold water unless they are old and shriveled; then this treatment is needed before paring. If a cauliflower head is dirty, it may be inverted in cold salt water; otherwise it is not necessary to soak it before cooking. Covering pared potatoes with cold water may sometimes be convenient; however it is not a sound practice because some of the water-soluble material is thus lost.

In fact, it is better not to pare vegetables because close to the skin lies the valuable portion, which may be conserved by cooking in the skins. A vegetable brush of convenient shape is used for thorough and complete scrubbing.

A wire basket, hose and spray, hung near the sink, help in the thorough rinsing of spinach to which sand clings. The spinach may be covered with cold, salted water and allowed to stand until the sand settles; it should then be lifted out of the pan and rinsed thoroughly, for gritty spinach is exceedingly disagreeable.

To get absolutely all the goodness of vegetables they should be eaten raw; however, some are not palatable. Starchy vegetables are better cooked. Babies not yet equipped with teeth

VEGETABLES Family

By *Mary C. Brown*

need their vegetables cooked and also sieved. Vegetables are cooked to make them more appetizing and palatable, to give variety to meals and to soften the cell walls or cellulose of those which are too hard to be eaten raw.

Yet many vegetables are exceedingly palatable when they are served raw. Cole-slaw has been a favorite for years. It was fixed with sour cream, vinegar and sugar by our grandmothers. I often take cream from the top of the bottle, add to it a spoonful of sour milk and set it in a warm place to sour. At other times I use mayonnaise from the grocery store.

Shredded cabbage may be made into a salad with any one of the following combinations of ingredients:

1. Dates, nuts, sour cream dressing.
2. Grated raw carrots, onion chopped fine, boiled dressing.
3. Thousand Island dressing, hard-cooked egg.
4. Chopped cucumber pickles, diced celery, hard-cooked egg, dressing.
5. Diced pineapple, diced apples, boiled dressing, whipped cream garnish, blanched almonds on top.
6. Crushed pineapple, sour cream dressing.
7. Chopped peanuts, boiled dressing.
8. Beets, horseradish, chopped ham, dressing.
9. Cooked vegetables, molded in lemon gelatin.
10. Diced bananas, whipped cream dressing.
11. Diced celery, apples, chopped nuts, whipped cream flavored with sugar and vanilla.

So much for the divers ways of serving raw cabbage. Cooked cabbage cannot compete with raw cabbage in vitamin or mineral content.

Sauerkraut is an excellent way to serve cabbage; the acid developed during kraut ripening is most healthful.

There are numerous ways of selling carrots to the family. My small son needs no such salesmanship. He delightedly spies the package from the grocer's, separates a single carrot, washes it and eats it. Raw carrots seem to appeal to children, but they should be finely grated if they are given to young children. They may be combined into salads for the family, according to the following suggestions:

1. With cabbage, cream cheese grated, olives, mayonnaise.
2. Peas, diced cheese, celery, boiled dressing.
3. Apples, celery, mayonnaise, lettuce, paprika.
4. Shredded lettuce, French dressing.
5. Chopped nuts, crushed pineapple, lemon gelatin.
6. Diced apples, chopped nuts, mint gelatin.
7. Cabbage, pimento, pickles, aspic jelly.
8. Grated onion, mayonnaise, pimento strips for garnish.
9. Celery, French dressing.
10. Shredded coconut, nuts, mayonnaise.
11. Toasted coconut, celery, cottage cheese.

This introductory list will doubtless serve as an impetus for still more foods that taste well with grated raw carrots. For the children, a boiled dressing with lemon juice added for tartness may be used; mustard and vinegar should be omitted. Possibly they will like the salad without dressing or with a bit of orange juice. They have not yet become accustomed to highly seasoned foods.

A head of cauliflower may be inverted in slightly salty water to crisp if necessary. Remove the flowerlets and serve them whole, or sliced lengthwise or crosswise. If they are quite small, they do not need to be cut. Any

CASSEROLE VEGETABLES WITH RAISINS

½ small cabbage
1 cupful sliced celery
½ cupful sliced green pepper
½ cupful seedless raisins
4 tablespoonfuls butter
1 teaspoonful salt

Wash and drain raisins. Shred cabbage. Arrange vegetables and raisins in layers in casserole. Sprinkle with salt, and dot with butter. Cover casserole tightly, and bake about one hour in moderate oven (350 F.).

Good workmen deserve good tools! To the right are shown a waterless cooker, pressure cooker, black bottom enameled saucepan, cast iron Dutch oven, and heat resistant glass casserole. In the oven is a heavy aluminum saucepan with a tightly fitting lid and a detachable handle. The vegetable bin, shown below, is of enameled metal.

tough stem is removed. They are served cold and crisp. For adults they may be marinated by being allowed to stand in French dressing in the refrigerator for about thirty minutes. Arrange them on beds of crisp lettuce and decorate with a sprinkling of grated cheese, Thousand Island dressing, sliced ripe tomatoes, or chopped green peppers. A suggestion of finely minced onion or chives with sliced raw cauliflower salad, some sliced meat, a mound of grated carrots and one of cottage cheese complete the dish.

Other raw vegetables which are good if young, tender and tasty are fresh young rutabagas or turnips, with French dressing, a bit of celery and minced parsley or the most tender leaves from spinach, chopped, marinated and served with grated cheese. If the vegetables are tender enough to be palatable raw, the idea is worth considering. A piquant cheese, nut meats and lemon juice can always be depended on to help out such a salad.

There are many tempting ways of serving raw vegetables in unusual combinations. On a bed of watercress, arrange overlapping and alternating slices of tomatoes, oranges and green peppers. If some of these are out of season, use a bed of finely cut cabbage with French dressing, sliced Bermuda onions, canned pimentos and oranges. Do not give up any of these ideas because something is out of season. Carrots, cabbages and oranges are on the market all year. For salads, one pays a higher price for the fancy little carrots, but for cooking one may use the older, stored carrots, keeping them in the vegetable bin in the pantry or refrigerator room.

There is no logical reason why one cannot thoroughly scrub old beets and lay them on the grate, using a moderate oven, from 300 to 400 F. Yet a baked beet is rarer than a baked banana! Try them next time the oven is heated. In the same manner, old carrots may be scrubbed and baked; after the skins have been peeled off, the carrots are served hot with melting butter, salt and white pepper. A fine flavor is thus developed. Baked onions are more common, and unless the slightly caramelized effect is desired, the oven should not be too hot. Since the sizzling hot juices may escape, it is advisable to use a shallow pan; or one may slip a cooky sheet on the shelf below to catch any juices.

All members of the squash family bake beautifully, and most persons have come to accept the baked potato's superiority, choosing the smooth-skinned Idaho Russets or Western Colorado potatoes, which are long, cylindric

and thick in the middle. A netted, corky skin, indicating maturity, shows mealiness. The kind of potato that falls to pieces when it is boiled will prove to be good for baking, coming out of the oven fluffy, white and mealy; it should be punctured immediately to let out the steam and thus prevent sogginess.

Any of the vegetables baked with a stuffing of meat, dressing, chicken, fish, bread crumbs, rice or macaroni will make a good entrée. Seasonings carefully added to the stuffing may consist of meat stock, chopped parsley, summer savory, marjoram, kitchen bouquet, celery extract, a dissolved boullion cube or chicken stock. A potato ball cutter may be used to remove from the vegetables the centers, which may be served in soup at another meal. Stuffed onions, carrots, peppers, egg plant, green peppers, tomatoes or cabbages should be baked in a dish attractive enough to be taken directly to the table.

Then there is the possibility of baking vegetables in tightly covered utensils of aluminum, glass, earthenware or enameled ware, the tight cover holding in the steam created by adding a small amount of water to the pan. Unless the oven is hot enough to produce browning of the vegetable, this differs little from top stove steaming, except that it is done with the heat that would be more or less wasted while roasting the meat. Just enough boiling water is added barely to cover the bottom of the casserole, or about ½ cupful for a small casserole of ordinary size. No water is used for spinach except that clinging to the leaves. Corn is entirely covered with water. The length of time required depends on the size of the pieces and the age of the vegetable as well as on the amount being cooked. The amount cooked to serve five persons, in a preheated oven at 450 F., requires from forty to sixty minutes, depending on these factors.

Beets, carrots, sweet potatoes, tomatoes, yellow beans and yellow turnips are satisfactorily cooked at all oven temperatures; however, 450 F. is recommended for the other vegetables because of better color. Better flavor is developed by salting before cooking. Baking at 350 F. also gives good results.

A casserole of vegetables, consisting of various uncooked vegetables combined with tomato juice or meat stock, cooked in a dish, effects a fine intermingling of flavors; any desired vegetables may be used, but those having coarser texture and tougher fiber must be cut into smaller pieces than the others.

Alternating slices of apples and carrots or of apples and sweet potatoes are baked together or steamed slowly in the buttered frying pan with tight cover.

Vegetables really should not be boiled but rather steamed, for by steaming, the minerals and vitamins are kept in; otherwise they are carried away in the steam and some of the flavor is thus lost. And when I say "lost," I really mean just that. For it is not merely water but part of our food as well that is being lost.

The objection might be raised that steaming discolors some vegetables. This is absolutely true, if they are steamed too long. But one can turn out the greenest, prettiest, tastiest spinach imaginable from the small covered saucepan. Then, again, the cooked product may be a drab yellow, a bit washed-out looking, and ever so bitter. The only difference lies in the length of time it is steamed. The time factor is of great importance. If you are going to boil your vegetables too long, by all means use an open kettle and a large quantity of boiling water. But if you can just remember to take them off the stove quickly enough, by all means steam them. I have produced equally fine results steaming vegetables in a regular steamer, a tight saucepan, a waterless cooker or a pressure cooker. In order to maintain the green color, it is also necessary to allow the steam to escape during the first ten minutes of the cooking by leaving the steam escape valve open. Most vegetables will cook without any pressure at all in the pressure cooker; however, if they are old and tough, the petcock should be closed and the pressure allowed to rise. The time required is so much shorter than with other methods that care must be taken to avoid yellowed potatoes and faded mushy carrots from overcooking.

Cabbage, cauliflower and onions are usually much better liked if they are plunged into boiling water and cooked for the shortest possible period, for despite the consequent loss of minerals by this method, vegetables must be tasty to be eaten; and thus cooked, they appeal more readily to popular taste.

Even after careful cooking, by which I mean short cooking with little water, spinach and string beans will turn bitter and appear faded, if they are held for late comers for some time over a steam table or in a warm oven. It is better to let the vegetables cool and then reheat them.

In order to cook vegetables successfully with little added water, the cover should fit tightly. Also, unless the vegetable itself has a high water content, one must add some water to assure a sufficient amount of steam. Ordinarily ½ cupful of water is added to the saucepan of average size; or enough water is added to cover entirely the bottom of the pan.

One must be sure the vegetable is not going to stick to the bottom of the pan. This is accomplished by occasionally stirring the potatoes, so that they do not stick fast to one spot in the enameled saucepan. It is also accomplished by placing them on a perforated mat or trivet. While it is entirely possible to cook with little or no water, provided the flame is low enough,

it is easier to do so in the pans that are of thicker material. The electric range maintains a low heat, and it retains considerable heat after it is turned to "off."

There has been a tendency in the past greatly to overcook vegetables, spoiling their form, using needless fuel, and in some cases changing their color. Pricking with a fork and tasting a cooled spoonful are the only practical tests. Properly cooked cabbage should be delicately green and never be yellow or brownish. Cabbage should be shredded and plunged into rapidly boiling water to which has been added 1 teaspoonful of salt for each quart. Enough cabbage for five persons can be cooked in ten minutes. After the vegetable is removed from the boiling water, it should be drained immediately.

The conscientious homemaker does not throw down the sink the juices drained from vegetables; yet one wonders how she manages to use them all. They may be incorporated into soups, stews, casserole dishes, jellied soups and salads. Yet the easiest way is not to have them at all. Use so little water that the saucepans have practically cooked dry by the end of the period. One-half cupful of water is the usual amount.

Another trick is to use the vegetable water in making white sauce, by adding undiluted evaporated milk, making the sauce rich and creamy. Season with butter. I believe that quantities of good butter as well as bacon drippings help in "putting vegetables across" with our critical families.

If carrots are quite old and strong to the taste, it is necessary to cook them in a larger amount of water if they are to be palatable and, if necessary, to discard this water. If they are sliced lengthwise, the mineral loss will be less; if they are sliced crosswise, they may lose more of that disagreeable taste that they have developed because of their age.

One or more left-over vegetables, with a bit of fish perhaps, may be combined with a meat gravy or cream sauce, put into a buttered baking dish, topped with cracker crumbs rolled in melted butter and delicately browned to golden crispness.

HEALTHGRAMS ✣ from Articles in This Issue

¶A complete revision of the views formerly held that peas and beans are good substitutes for meat is now necessary, for it is recognized that not all proteins are equal in their nutritional value. *See page 1021*

¶In a large group of workers there is always some one in whom poisoning will develop from small amounts of poisonous dust or vapor that affect none of the other workers. *See page 995*

¶The expectant mother should have an early, complete physical examination in order that all physical defects may be discovered and, if possible, corrected. *See page 981*

¶The A B C of proper brushing consists of (a) position of the tooth-brush; (b) application of pressure, and (c) the slight wriggling, vibratory movement. *See page 1009*

¶High pressure salesmanship should have no place in selling vegetables to the family, for it develops sales resistance. *See page 1004*

¶Averages are no criteria of normality so far as the development of an individual child is concerned. *See page 988*

¶Fatness is not a sign of health; it is liable to develop into exactly the opposite. *See page 1015*

¶The only means of helping the optically imperfect eye is by the use of glasses. *See page 1017*

¶An ironing board set up so that it extends over the bed makes a substantial work table for the convalescent child. *See page 1002*

¶This year, 1934, marks the fiftieth anniversary of the discovery of the anesthetic action of cocaine by Carl Koller. *See page 973*

¶While the reputable and conscientious dentist preserves health, the quack creates destruction. *See page 1026*

¶Dickens has captured doctors aplenty between the covers of his novels. *See page 998*

¶Perhaps one of the greatest difficulties encountered in successfully preventing disease is the human tendency to gamble with health. *See page 975*

¶The louse has undoubtedly played a considerable, although obscure, part in making history. *See page 992*

¶Tuberculosis was a frequent destroyer in the royal families of France during the Middle Ages. *See page 970*

¶To vary custard, try flavoring it with lemon and orange. *See page 983*

¶Dentistry today is concerned more with prevention, which is cheap, than it is with mere restoration, which is expensive. *See page 978*

Common Sense in Mouth Care

By W. M. Gardner

VII

THE A B C OF PROPER BRUSHING

LONG BEFORE the tooth-brush was advocated as a health measure, persons who were careful about their personal appearance used a tooth-brush solely for cosmetic reasons. Brushing was limited to those surfaces of the teeth that were exposed to public view. No thought was given to mouth cleanliness and health. Prevalence of dental disease, to which in turn certain systemic diseases are attributed, soon showed the error of such a limited use of the tooth-brush.

Brushing must accomplish two things: First, it must really clean all surfaces of the teeth to prevent decay and formation of deposits, and second, it must stimulate the gums to establish an active blood supply that will make this tissue resistant to mechanical injury and bacterial invasion.

There are three popular methods of brushing, back and forth, or horizontal; up and down, or vertical; and large circulatory, or rotary motion. In a group of 1,000 cases studied, 95 per cent used one of these three methods either alone or in combination. These methods of brushing have one fault in common: They deal with high spots only.

In order to bring out their faults more clearly and strikingly, the task of cleaning an ordinary comb with a tooth-brush will be considered. On the teeth of a comb just as on the teeth in the mouth, deposits or accumulations always form between the teeth, especially where the teeth meet their supporting structures. An attempt to clean the comb by either the back and forth or the large circulatory movements must convince even the most skeptical that the task is hopeless. Both methods fail to remove or even slightly to disturb deposits between the teeth.

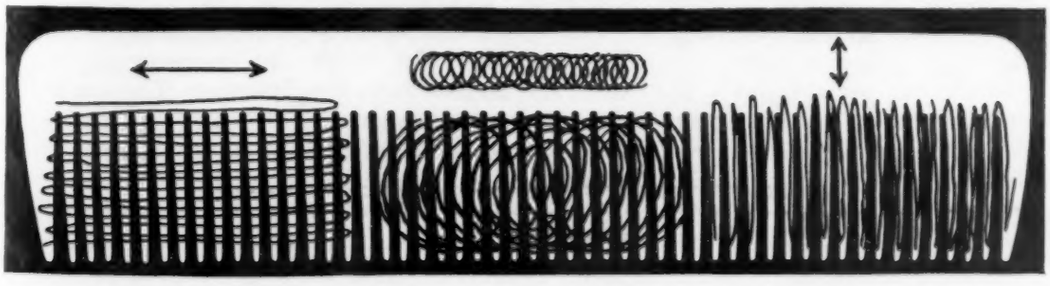
The up and down method is equally inefficient. In cleaning the comb, this method becomes efficient as soon as enough pressure is exerted to force the bristles between the teeth. The contour of the teeth in the mouth is such, however, that when pressure is applied the up and down movement is not possible.

Each tooth has five surfaces to be cleaned, all of which are about equal in area. The popular methods of brushing deal with only three surfaces, the surface toward the cheek or lips, the surface toward the tongue, and the grinding or chewing surface. This constitutes only three fifths of the area to be cleaned. The other two fifths of the tooth, or the surfaces between on which most deposits collect and on which most of the decay takes place, is not reached or cleaned.

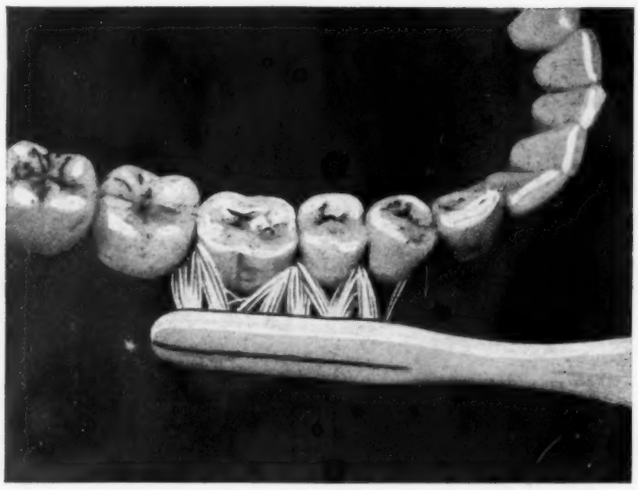
The popular methods of brushing depend entirely on the principle of friction. A much more important principle is pressure, and about this principle of pressure is built a new method of brushing teeth which not only cuts down the incidence of decay markedly but which also affords stimulation and health to gum tissue. This new method of brushing is called the interdental method of brushing because, as the name implies, it concentrates on the spaces between the teeth. It takes the tooth-brush out of the realm of the scrub-brush and makes a series of toothpicks of its tufts.

It is hard to teach a method of brushing by writing about it, for many readers lack the power of visualization and are entirely unfamiliar with the structures of the mouth. Nevertheless, an attempt will be made to describe as simply and clearly as possible this efficient method of brushing which has been enthusiastically received by every one to whom it has been taught. It may be of help to the reader to equip himself with a tooth-brush and a mirror so that he may try to follow instructions as he reads.

The bristles of the brush are placed at right angles to the teeth, where the gum tissue meets the tooth. The brush rests entirely on the teeth, not on the teeth and gum tissue. Pressure is then gently but firmly applied so that the ends of the bristles slide off of the prominent parts of the teeth and penetrate into the spaces between them. As they penetrate, the sides of



The inefficiency of the popular methods of brushing, horizontal, rotary and vertical, is illustrated on the teeth of a comb.



Proper application of the brush with pressure forces the bristles to penetrate between the teeth.

the bristles come in contact with the gum tissue and compress it. A slight wriggling or vibratory movement is then started, care being taken to restrict the movement sufficiently and to maintain enough pressure to keep the bristles in the spaces into which they have been forced.

In this method of brushing then there are three definite steps: (a) position of the brush; (b) application of pressure, and (c) the slight wriggling, vibratory movement. These steps, the A B C of proper brushing, must be followed in the sequence named. They must be thought of every time the brush is moved to a new area. After a few weeks, the habit will be established and the three steps will be automatic.

In the wriggling, vibratory movement, restricted so that the bristles do not leave the spaces into which they are forced, the ends of the bristles do not move in little circles but, because of the flexibility of the bristles, chisel in and out between the teeth. This chiseling action of the ends of the bristles is most efficient in disturbing and dislodging acid factories and deposits from between the teeth. If the brush is applied in this manner every twelve hours, the acid in the factories can never reach a concentration high enough to attack tooth structure, nor can tartar deposits become so hard that they cannot be removed by the brush.

This method of brushing brings about a physiologic stimulation of gum tissue. The blood exchange is brought about by pressure rather than by friction as in other methods of brushing. In this way, brushing simulates more closely the stimulation that gum tissue gets from coarse foods. The sides of the bristles as they penetrate between the teeth cause a compression of the little elevations of gum tissue. A blanching of the tissue results not only where the pressure is applied, but also for a considerable distance from where the pressure is made. This blanching means that the blood has been driven out of the area. As soon as the brush is removed, there is a decided reddening or blushing of the tissue. Fresh blood from the arteries has entered the area. This new blood will neutralize the toxins in the area and will also be active in the repair of broken down tissue or in maintaining health.

Because an active blood exchange is brought about by intermittent rather than by constant pressure, it is best to brush a small area for only a short time and then pass on to the next area. In this way the mouth should be gone over four or five times or until a definite tingling sensation is felt in the gums.

If the individual's method of brushing has been incorrect, the adoption of the correct method will usually cause the gums to bleed. If the bleeding continues for only a week or two there need be no cause for alarm. The many little tissue cells that cover the gums are much like the cells that line the palm of the hand. The hand that is unaccustomed to hard work will soon blister and become sore. If the hard work is continued, nature will cause the formation of many more cells to act as a protection. The hand is then said to be calloused. The protective cells covering the gums react in the same way. The mild irritation of the gums during correct and repeated brushings causes a multiplication of protective cells. If, however, the bleeding persists after the lapse of a week or two, a dentist should be seen as soon as possible.

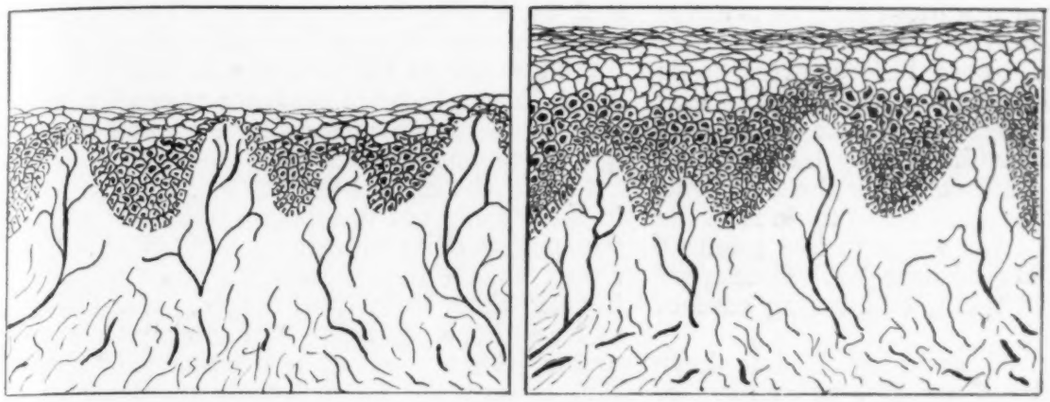
VIII
LIMITATION OF TOOTH-BRUSH

THE FIRST and possibly the greatest limitation of the tooth-brush is that it is an inanimate object dependent entirely on the mind and hand that guide it.

With even the most careful and thoughtful brushing, however, decay of grinding surfaces of the back teeth cannot be prevented. In the formation of these teeth each cusp or point of the tooth represents a center of calcification. When in the formation of the crown of the tooth these different centers come together, there is often an imperfect union. These imperfect unions are called fissures.

Fissures are frequently narrow and in many cases have a width less than the diameter of a single tooth-brush bristle. Reaching the bottom of the fissure with a bristled brush then is impossible. While these fissures do not admit even one bristle of a tooth-brush, they are not too narrow to contain acid-forming bacteria and food.

When, for example, a piece of candy is being chewed, opposing teeth act as plungers and force the sugars into the fissures. The bacteria already in the fissures go on uninterrupted and undisturbed, breaking down these sugars until lactic acid is formed. The walls of the fissures become etched by the action of the acid so that when fermentable food is again introduced, a larger amount is held. Thus the process con-



Proper brushing will build up the unhealthy, thin gum tissue shown in the first diagram, so that it will be stimulated to form a heavy, protective layer over the blood vessels as in the second picture. Healthy gum tissue does not bleed.

tinues unimpeded until the enamel is penetrated and the dentine is reached. Decay then advances rapidly toward the pulp.

It may be well to state here that sugars such as those found in candies, for example, have in themselves no injurious effects on the enamel of the teeth. It is only because they furnish necessary food to the acid producing bacteria that they have a direct bearing on the problem of decay. If neither acid producing organisms or carbohydrates were present in the mouth, decay would not result in the fissures. It is a well known fact that the native Esquimo, whose teeth also exhibit fissures, is free from tooth decay. He lives on an almost exclusive meat diet. However, if he comes to the civilized settlements, his teeth decay rapidly because of his acquired fondness for carbohydrate foods and his utter neglect of mouth hygiene.

Because the tooth-brush is unable to cope with decay on the grinding surface where fissures exist, the task of prevention of decay on this surface belongs to the dentist. Ways and means have been devised whereby he can protect this area by the elimination of the fissures in some instances without the use of a filling. It is of utmost importance that a child is brought to the dentist for this purpose between the ages of 5 and 6 years so that the grinding surfaces of the six year molars, the most important of adult teeth and the most susceptible to decay, can receive preventive treatment.

IX. HELPFUL HINTS

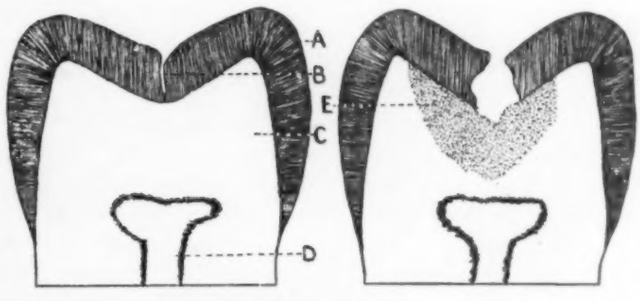
A DEFINITE routine in brushing should be established so that none of the teeth are left unbrushed. For this reason it may be helpful to think of the mouth as divided into sections or areas. The areas are small because the small straight type of brush can take in only a few teeth at a time.

Patients invariably brush the outer aspects of their teeth first. This habit is a remnant of the time when teeth were brushed for cosmetic reasons only. A more logical place to start brushing is on the inner surfaces of the lower teeth. Deposits, or tartar, are precipitated from newly secreted saliva, most of which enters the mouth from glands underneath the tongue.

The first surfaces that present themselves for deposits, therefore, are the surfaces toward the tongue in the lower jaw. These surfaces are hard to brush correctly, especially when the teeth are irregular and the tongue is large and unruly. If the brush is applied to these surfaces while the bristles are still stiff, more efficient cleaning will result. Also there is a tendency to hurry at the end of brushing, so that the inner surfaces which need the most brushing get only a "lick and a promise." A person is not nearly so liable to hurry on the outer surfaces of the front teeth which are exposed to public view. These should be brushed last.

In brushing the lower left side, it may be well to remember that the handle of the brush is on the right side; when brushing the lower right side the handle of the brush is on the left side. When brushing the lower front teeth, the tip of the brush is used with the handle of the brush almost vertical. All the brushing in this region is done with the tip of the brush only. The short, stubborn end bristles, well supported by the handle, will not bend over but penetrate between the teeth.

When the outer surfaces of the back teeth are brushed, the mouth should not be opened widely. The grinding surfaces should be only about ¼ inch apart. This will relax all the muscles of mastication and will allow far greater freedom and ease in the movement of the brush. If the upper wisdom teeth are still inaccessible, the lower jaw should be moved toward the side being brushed. This will take the upper portion of the lower jaw out of the way.



Fissure before and after decay. A, enamel; B, fissure; C, dentine; D, pulp, or nerve; E, caries, or decay.

Many patients find it a great help to practice brushing before a mirror for a few days. The application of the brush before pressure is applied is so important and so exacting that the eye will be of great assistance in guiding and correcting the hand. It may take half an hour to brush the teeth correctly the first time, but in a short time one can learn to do it in the required period of from three to five minutes. Care of the mouth is a lifetime job. Time spent in learning the best method of taking care of it is time well spent.

In my practice of dentistry it has been forcibly impressed on me that prevention of dental diseases, especially diseases of the gums, depends not only on visits to a dentist once or twice a year, but also on the person's own intelligent daily efforts.

X. PREVENTION

Prevention is brought about by education. It appeals only to the intelligent and cooperative patient. Prevention is foresight. It arises and teaches from the misfortune of others. Prevention is true economy.

It is hoped that out of the mass of intensive research work now being done on diet there will evolve the answer to the prevention of dental diseases. Reports of experiments so far conducted, although encouraging, are still controversial and confusing. Until definite and practical conclusions are arrived at, prevention of dental diseases must be accomplished by periodic visits to the dentist and by correct and vigorous use of the tooth-brush.

Although we hear much talk about defective enamel and tooth formation, a great majority of persons come into this world with teeth sufficiently good to last a lifetime if they are properly cared for. Research has demonstrated that teeth vary little in chemical composition and hardness. A vital factor in lifelong teeth is the character and cleanliness of their environment. There is much evidence at hand to prove that most teeth are sacrificed on the altar of ignorance and carelessness.

One of the biggest difficulties to be overcome in the teaching of prevention is the almost universal law of least resistance. This difficulty seems almost insurmountable among a hurrying and chronically tired people. It seems easy to be enthusiastic today, not so easy tomorrow, and as time goes on, an active means of prevention is replaced by a foolish optimism or by indifference. The condition of the mouth is not governed by what is done for it today or tomorrow or the next day, but by what is done for it each and every day of life. Destructive forces in the mouth are discouragingly persistent. Eternal vigilance is the price of health.

Prevention of dental disease by mechanical cleansing as presented here may seem a mass of details, each one of which seems small and insignificant enough to be eliminated. Experience and observation, however, prove that each detail is necessary for the best ultimate result. Excellence consists of adding but a few seemingly unimportant details to mediocrity. Michelangelo assures us that trifles make perfection but that perfection is no trifle.

In the present scheme of prevention the dentist and the patient play an equally important part. The dentist's part is the correction of unfavorable conditions and the education of the patient in preventive measures. The patient's part is the maintenance of the healthy condition established by those preventive measures. Whole-hearted cooperation between dentist and patient is essential.

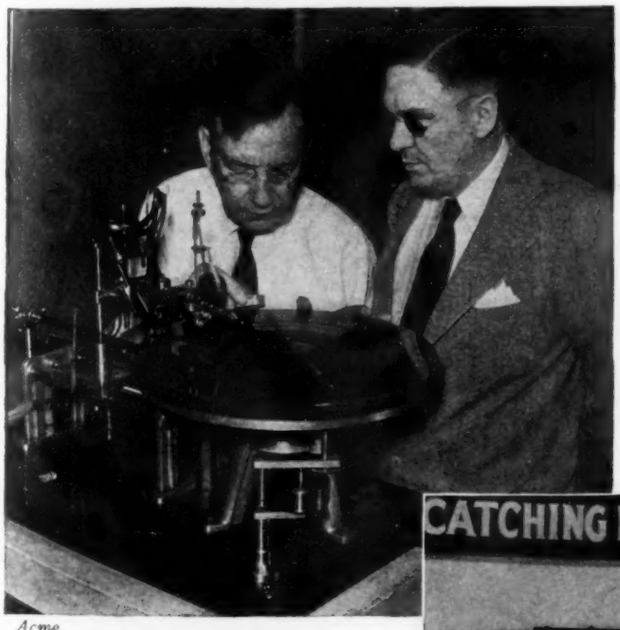
[THE END]

"Well, how's our little sick man this morning"?

Acme

The Los Angeles playground department has recently launched the first floating ambulance. It is supplied with all life-saving devices from inhalators to stretchers and hospital equipment.

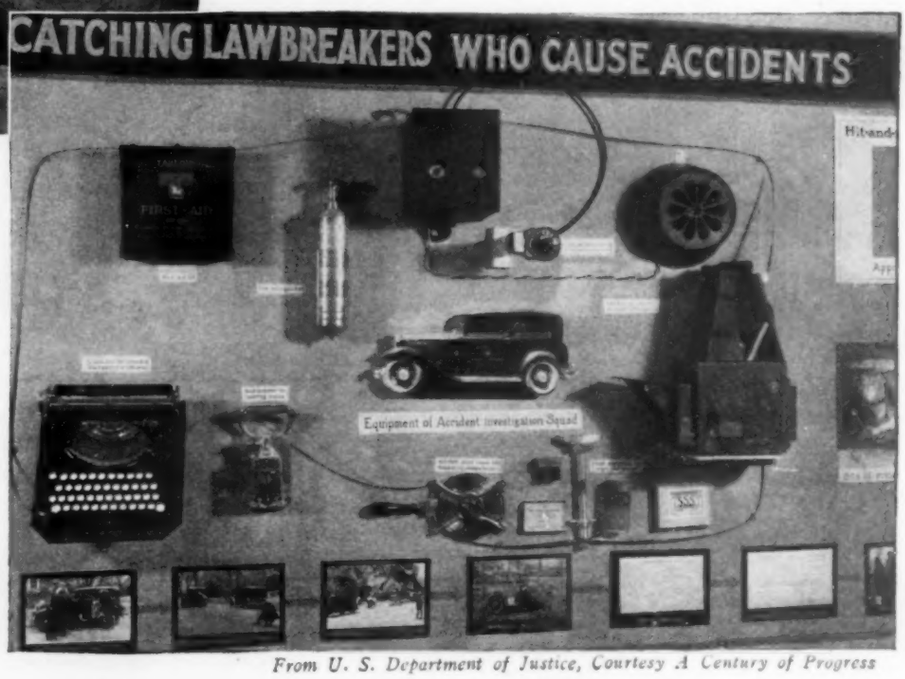
The Olympic Cup shown below has been awarded to the National Recreation Association by the International Olympic Committee for outstanding service in sport and recreation to the youth of the world. The cup was first donated in 1906 by Baron P. de Coubertin of France.



Acme

A new recording invention makes possible the long promised "talking book" for the blind. An average novel of 65,000 words is contained in two 16-inch disks, which may be run off in about two hours. At the left is Edward R. Harris, the inventor, with J. Robert Atkinson, founder and vice president of the Braille Institute.

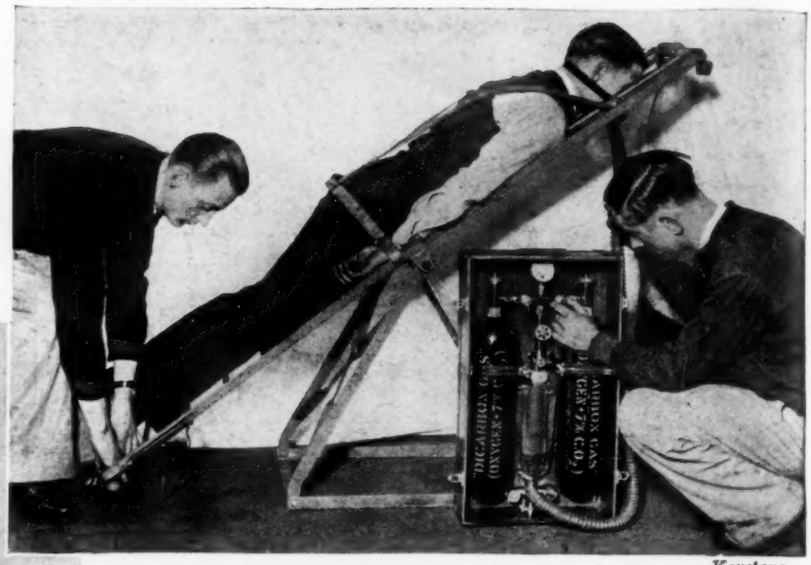
The display below shows first aid kit, radio receiving set, camera including flash equipment for taking pictures of night accidents, a decelerometer for testing brakes and other equipment used in investigating accidents.



From U. S. Department of Justice, Courtesy A Century of Progress

Blind Bernard Krebs, 23, was graduated from the school of journalism of Northwestern University in June and will edit the first daily newspaper for the blind. Krebs, who has been blind since he was 9 years old, hopes that advertising and help from friends of the sightless will make possible a free daily newspaper for the blind all over the country.

Acme



Keystone

A new apparatus by which persons apparently drowned can be rocked back to life was demonstrated recently in London. From ten to fifteen rocking motions a minute on the mechanical seesaw are said to induce an exact imitation of natural breathing. The apparatus can be used in all cases of suspended animation.

Acme

Women of all ages, many of them middle-aged housewives, are learning to swim under the Seattle park board's system of free swimming classes for women. The course consists of two lessons weekly for six weeks.

Ewing Galloway

Scout meetings offer opportunities for many Boy Scouts to learn methods of rendering first aid. The scouts shown to the left are learning proper methods of bandaging.

If Your Child Is Overweight

As Told by a Mother to

ELLEN GRINDELL

To avoid the temptation of seeing a great deal of food, I served all his meals on a blue plate, arranged attractively and decoratively, and thereby eliminated all second portions.

DAVID had always been a plump baby, but as he grew older and showed no signs of outgrowing his heaviness, I began to fear that he might grow up to be one of those fat boys who are so severely handicapped by their weight. When he was 6 years old he was nearly 14 pounds overweight, and although my friends said that it was because he was healthy, I was not satisfied. In the first place, fatness is not a sign of health; it is liable to develop into exactly the opposite. Moreover there was the psychologic problem to face, the effect that teasing and unattractiveness would have on his own self confidence. Children are naturally cruel, and a fat boy is always the object of taunts and fun-making.

Therefore, I decided that something must be done about it, but I was rather at a loss as to how to begin. In the first place, I was afraid of cutting down David's diet too radically since he was growing rapidly and needed plenty of nourishment. I knew that the diet must be prescribed by a doctor in order to insure its safeness, but there was also the angle that a doctor could not handle, and that was the problem of getting a hungry little boy to agree to eat less and to cooperate with me in the diet. Realizing the problem, I took David to a psychiatrist who is both a Doctor of Medicine and a specialist in handling children.

She agreed with me that David should not be allowed to grow any fatter, and so she not only gave me a diet list but also prescribed the plan whereby we could get David to stick to the diet.

In the first place, David was to have his meals alone instead of with the rest of the family. This meant that he would not see others eating food that was forbidden him. Moreover, it meant also that when he came in from play at about 5:30 p. m., he could eat immediately, instead of waiting to eat with the rest of the family. He is hungriest right after playing, and when he had to wait more than an hour for his supper, it meant filling in with something between meals. I always stayed with him while he ate because solitary meals are lonely, but I never ate with him.

Then to avoid the temptation of seeing a great deal of food, I served all his meals on a blue plate, arranged attractively and decoratively, and thereby eliminated all second portions. David soon came to realize that whatever was on his plate before him when he sat down to the table was all there was to eat. This was important, because even large quantities of food that is not fattening in itself are as bad as small quantities of sweets and starches.

Our next step was a chart which David and I made together, with a place for every day in the week. Every night I weighed him, and for each day that he lost weight we not only wrote in the figures but pasted on a gold star. Children enjoy seeing tangible evidence of their progress, and those stars were something for

David to work for; they meant much more to him than the promise that some day he would be glad that he was not fat. Moreover, I added the additional incentive of some small reward for each 2 pounds lost. Some inexpensive toy from the 5 and 10 cent store marked every 2 pounds, and this did a great deal to compensate for the denial of food. We did not exaggerate the importance of the reward so that it would assume too great an importance to David; we simply made it a compensation.

That was how we got David to cooperate. The diet itself is as follows:

Breakfasts

Two tablespoonfuls of bran, shredded wheat or any other dry cereal with a little sugar. One glassful of milk, part of which is used on the cereal. Two slices of whole wheat or graham bread toast, two bran or graham muffins, or four slices of thin, toasted wheat-rye crackers.

Lunches

1. Tomato juice cocktail, two slices of cold or grilled baked ham, large portion of apple, celery and nut salad.
2. Chicken consommé, veal chop, string beans, orange and grapefruit salad.
3. One half grapefruit, two shirred eggs, three "breakfast" sausages, large endive salad.
4. Beef consommé, two lamb chops, peas, fresh pear and cottage cheese salad.
5. Large glassful of orange juice, scrambled eggs and two slices of bacon, tomato salad.
6. Tomato consommé, cheese soufflé, celery, fresh pineapple and cabbage salad.

Dinners

1. Oyster cocktail, crown roast of lamb, spinach, peas, endive salad, grapes.
2. Beef broth, broiled chicken, cauliflower, string beans, fresh mint salad, sliced orange.
3. Chicken broth, roast beef, creamed onion, lima beans, tomato salad, fruit.
4. Clam broth, cold roast beef, stewed mushrooms, broiled tomatoes, green pepper and cottage cheese salad, pear.
5. Grapefruit, roast veal, swiss chard or spinach, squash, fresh pineapple and cottage cheese salad.
6. Consommé, steak, baked potato, cabbage, fruit.
7. Tomato consommé, roast pork, baked stuffed apple, string beans.
8. Melon, chicken fricassee, peas, carrots, alligator pear salad, fresh fruit.
9. Steak, string beans, lettuce salad, fruit cup.
10. Grapefruit, roast duck, apple sauce sweetened with 1 teaspoonful of honey, beets and greens, celery and cheese salad.
11. Oyster stew made with 1 cupful of skimmed milk, veal chop, mashed turnips, wax beans, watermelon.
12. Tomato juice, celery, crab meat creamed and baked with a little cheese, sliced cucumbers and tomatoes, prunes.
13. Melon, roast lamb, stewed egg plant, onions, spinach, mint salad, fresh pear and pineapple compote.
14. Clam cocktail, filet of sole, lima beans, cauliflower, fruit.

The Body Louse

(*Continued from page 994*)

and its owner raises no objections. Otherwise the clothing may be tackled wholesale or in detail. The best wholesale method is steaming it in a special apparatus. If this method cannot be used, a detailed and personal campaign may be necessary. Every garment should be turned inside out, special attention being paid to the seams; a jet of steam from a kettle should be allowed to play over each seam. Pressure against a hot iron or a boiler and exposure to the heat of a fire are effective. Gasoline, paraffin oil, turpentine or benzine will kill both adults and eggs in clothing. Beating it vigorously is less effective, as the eggs may remain attached to the garment, however unhappy the adult louse is made to feel.

Although standard insect powders are liable to be inert, there is a special powder, composed with an eye exclusively to the louse, that was used extensively during the World War and proved most satisfactory. It is known as N. C. I. powder and is composed of 96 parts of naphthalene, 2 parts of iodoform and 2 parts of creosote. Two teaspoonfuls of this powder is put into a little bag made of a 2 inch bandage, and the bag is tied round the waist. There are various other ways of using this powder, which is supposed to kill in twenty-four hours every louse coming within the radius of its action. It is useful both as a preventive and as a remedy.

There are many other louse exterminators that are good, bad and indifferent. What is far more important than an encyclopedic but theoretical knowledge of all these remedies is a working knowledge of the few that are most reliable. Systematically used, they do not leave the louse a dog's chance of survival.

[Note.—In the December Hygeia, Dr. Lillingston will continue his discussion of "Our Parasites" with a chapter on the flea.]

What You Should Know About EYEGLASSES

Chapter V of

THE EYE BOOK

By Hyman Cohen

THE EYE is the guiding light of life. It is indispensable to mankind's activities. Of the five special senses, that of sight is most serviceable for the enjoyment of life and the broadening of all mental faculties.

The eye is an intricate organ, delicately conditioned in its function, a living optical instrument built on the plan of the camera. It has certain structural faults, and only rarely does it grow into perfect optical shape. Consequently, most eyes have optical defects of lesser or greater degree. These defects are known as farsightedness, nearsightedness and astigmatism. If these flaws are not corrected, they make normal sight impossible, produce much discomfort and give rise to disease in the eyes. However, these defects can be corrected and their ill results prevented by the use of eyeglasses.

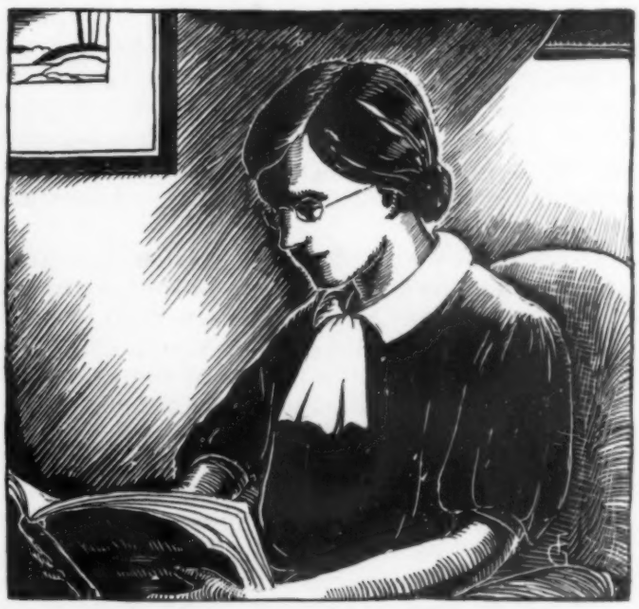
In the light of the experience of practically every physician who devotes himself to the treatment of eyes there is not even the slightest doubt that the only means of helping the optically imperfect eye is by the use of glasses. There are no questionable orthodoxies of belief about it, no vested interests so far as the physician is concerned and no unwillingness to be open minded. There simply is no other way of helping mankind in eye difficulties of this type. Approximately half the population, at one period of life or another, find the use of glasses a great and irreplaceable help; they would not and could not do without them. From age to age the service of glasses to the eyes and the comfort of man is gratefully attested.

Nevertheless, there are those who offer objection to the use of glasses because of sentimentality, prejudice or ill conceived personal pride. The arguments are varied: "Glasses are not natural." "I never needed them before." "The child is too young." Some persons consider the wearing of glasses a mild disgrace, a cosmetic detriment or a confession of old age. One may fully understand and sympathize even with human frailties and foibles; but common sense, together with the pursuit of comfort and health, and the prevention of economic and social waste must ultimately outweigh them.

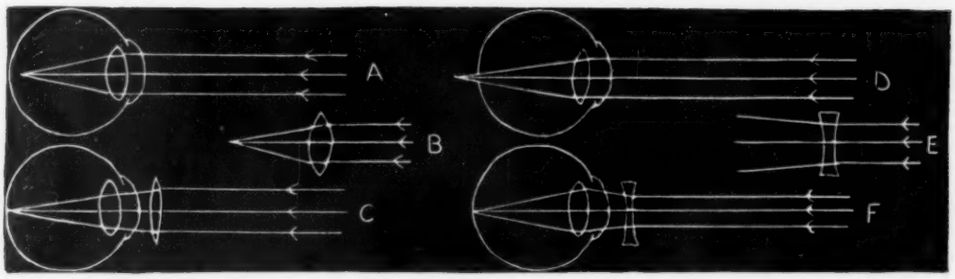
On the other hand, there are a few persons who, though they do not have any need for glasses, affect them because they consider their use fashionable or "smart." This is usually another contrary foible, at the present time limited chiefly to young women. The best that can be said about this vogue is that it is harmless. This is where the "Throw-Away-Your-Glasses" cult finds its field of action.

A piece of clear glass with a plane surface, that is, one that is flat and that has neither bulge nor scoop in the center, allows rays of light to pass through it without turning them toward each other to form a point or away from each other in a fanlike spread. In other words they pass unrefracted. Any glass that is either thicker, convex, or thinner, concave, in the center has the power to refract rays of light. The convex glass brings them to a point in convergence; the concave glass spreads them out in fanlike fashion, or divergence.

Such pieces of glass, properly shaped, are called lenses when they are used for optical purposes. When they are used to aid the eye to better vision these lenses are ground to each particular type of eye and degree of departure from the normal. When a convex or concave lens is of equal strength in all its diameters, it is called a sphere, which, in the case of the convex lens corrects the disadvantage of farsightedness, and in the case of the concave lens corrects



Persons who suffer from blurring, headache or eyestrain when they are reading must use their glasses constantly.



The refractive error in the farsighted eye (A) is corrected when the parallel rays of light are converged into proper focus through a convex lens (B); the result of the correction is shown in C. The refractive error in the nearsighted eye (D) is corrected when the rays of light are diverged into proper focus through a concave lens (E); the result is shown in F.

the detriment of nearsightedness. The eye may also suffer from astigmatism of one kind or another, a condition that requires correction in one particular diameter, either up and down, from side to side or diagonally between these two. In such a case a cylinder must be added to the sphere; or a cylinder may be employed alone when the astigmatism is simple. A cylinder is a bulge or scoop in a lens, and it runs in one direction or diameter only but is so placed as to make the correction required.

This, then, is the office of glasses: to bring the eye up to perfection when it is naturally defective. It is not difficult to understand now that the kind of glass is always the opposite of the kind of eye to which it is fitted. A short, or farsighted, eye requires a convex lens to converge the light rays and bring them to a proper focus; otherwise it would "miss the point." A long, or nearsighted, eye requires a concave lens for focusing. If the eye is farsighted in a certain diameter and nearsighted in the opposite one, so, too, must be the adaptation of the correcting glass.

The eye is a living optical instrument. As any lens can be measured for its optical value in sight units, or diopters, so can the departures from normal in the eye be measured. The art of so examining the eye is known as refraction.

Proper Refraction Corrects Many Visual Defects

Refraction seeks to establish first, the type of eye, that is whether it is normal, farsighted, nearsighted or astigmatic; secondly, the degree to which the particular deficiency, if any, exists, and finally, the power of the eye to adjust itself to see at varying distances, or the power of accommodation.

There are two methods of refraction. The oculist, a physician specializing in the treatment of eyes, makes use of both. There is no bias or arbitrary choice in the use of one method or the other. The age, the nature of the case and the attending conditions, vital or circumstantial, of each individual decide the employment of one or the other of the two methods.

The aim in all cases should be to secure an accurate correction that will give comfort. An inaccurate glass either fails to correct the original condition, or what is worse, creates an artificial error of refraction.

These methods may be called subjective, without the aid of drops, and objective, with the use of drops. It is important to the public good that the differences in the two ways of examining eyes for glasses are made known to and understood by the public.

The subjective, or manifest, method depends largely on the patient's ability to respond by reading the letters on the vision chart when one lens or another is placed before his eye. As a preliminary measure, certain instruments are sometimes employed to get an approximate estimate of the needs of the eye, but this preliminary skirmish can rarely give absolutely accurate results. The examiner must rely chiefly on the patient's report while reading the letters on the chart. When the defect to be corrected is simple and when the person examined is intelligent and sharply aware of small differences, this method is applicable with satisfactory results.

Each Method Has Its Own Advantages

However, it has many disadvantages. In farsighted persons, especially the young, in whom the accommodation is so active that it masks or hides part of the refractive error, it is unlikely that an accurate measurement of the error can be made. In such cases a muscular structure that is constantly contracting and relaxing must be dealt with. This is further aggravated if the muscle is in a state of spasm. It is as though one were to attempt to measure an elastic band that is constantly contracting and expanding. Obviously, the subjective method cannot be used with young children or persons of blunted mentality. Even intelligent persons sometimes find it difficult to decide between a small difference in the lenses tried, and it is often the smallest difference that decides between comfort or discomfort. Nearsighted persons examined without drops usually claim and frequently are given glasses that overcorrect because they make things stand out sharper, causing subsequent discomfort, pain and other symptoms of irritation. The examination of the several inner structures of the eye for possible disease cannot be accurately made without dilatation of the pupil by the use of drops.

In the objective method, certain drugs such as homatropine and atropine, in solutions of appropriate strength, are dropped into the eyes before examination. There are many advantages in the use of drops. The action of the constantly contracting and expanding apparatus

is temporarily stopped, so that a full and accurate measurement of the refraction is made possible. If spasm exists, it likewise is arrested. It is the only logically possible method to be employed with children and some adults whose intelligence and awareness cannot be trusted. It is fundamentally the most exact method and does away with guess work, the unnecessarily frequent and haphazard changing of glasses and much discomfort. The pupils are enlarged so that all the structures inside the eye are open to view for study. It gives the eyes a period of rest which they ordinarily cannot get. The employment of drops makes reading inconvenient for a day or two, but this is greatly compensated by the accuracy of results and the lasting comfort secured. The physician knows when there are conditions in the eyes that make the use of drops inadvisable.

Properly Fitted Glasses Are a Balm to the Eye

The insistence on the use of glasses applies only to those who most certainly need them. Something that the public is not fully aware of and that should be made clear is this: Glasses are used for two main purposes only. Primarily, they should improve the sight; that is, they should increase the acuity of vision of those who are nearsighted, astigmatic or exceedingly farsighted and of most persons past the age of 45. It is, however, an equally important but frequently neglected point that glasses should make seeing comfortable and do away with irritation and strain of the eyes.

It is this point that is not clearly understood by the public. It is indeed sometimes not possible to give a person greater vision; that is, to enable him to read a line or two more on the letter chart. But it is always possible, where an error of refraction exists, to make seeing more comfortable through the use of the proper lens before the eye. In such cases the glasses are a sort of balm to the eyes. They are soothing and make one feel at home with oneself and with the world.

Whether glasses are to be used constantly, only during work or merely occasionally is best determined by the eye physician according to the symptoms and needs in each case. Constant use of glasses is necessary for persons who suffer from blurring, headache and eyestrain when they are reading, sewing and otherwise employed in occupations at close range. The nearsighted person also should wear glasses constantly and unconditionally for better distance sight and to prevent serious damage to the eyes. Those suffering from astigmatism of a considerable degree will do better with constant use of glasses, and children who wear glasses for cross eye should wear them constantly.

Occasional use is all that is necessary for those using glasses for reading or sewing only. They should not wear them when they are not so employed; if worn at other times, glasses may blur for distance and give rise to unpleasant symptoms. Children sometimes outgrow small optical defects of the farsighted type and may then dispense with the use of glasses.

A bifocal glass combines two lenses in one. It is so ground that the upper part serves for distance vision and the lower segment for near vision. It finds its use in persons who are already wearing glasses, but who, about the age of 45, need a correction for the near use of their eyes in reading, sewing and such work. The choice here lies between the bifocal combination and having two separate pairs of glasses, one for ordinary use and one for near use.

Some persons are antagonistic to the bifocal lenses because they are an admission of age. Others object to them because it takes time to get used to them. On the other hand, there is the troublesome matter of repeatedly changing from one pair of glasses to another. The soundest practice for those who are already wearing glasses for distance and who are beginning the use of glasses for near vision is to adopt the bifocals. At a later period, particularly if there should be poor sight, unsteadiness of gait or some difficulty in walking, two pairs are better. In any case, the eye physician will advise the proper course.

The frequency with which glasses should be changed depends, of course, on the many factors operating in each case; it depends on the results of reexamination. It may not be necessary to change glasses, but it is important to ascertain whether or not a change is needed.

Periodic Examinations Are a Form of Insurance

The following plan will serve as a guide. Children up to the age of 15, the most active growth period, should be reexamined for possible need of change at least every two years, no matter for what reason they are wearing glasses. If there is any complaint or inability to see, the reexamination should be more often. Nearsighted children in particular should be reexamined at least once a year. In cases where there is a tendency and a threat of progressive myopia, it becomes necessary to have the child's eyes under observation with reexamination at regularly stated periods of three or six months. In this grave condition the oculist is concerned not only with the condition of the eyes at the time but with the problem of their future usefulness. What will be the condition and state of usefulness of the eyes when this child grows to adulthood? Will he be able to enjoy life fully and meet the personal and social responsibilities that come to all? Or will he fight a losing battle and become inadequate? That is the burden of thought and concern on the part of the eye physician and that is why he should be consulted periodically. His advice and direc-

tion may do much to fend off a dolorous future. Adults who wear glasses to remedy troublesome farsightedness often find that the glasses that help at first cease to do so after a variable lapse of time. The reason for this is that their eyes do not accept the full strength correction at first, and they are given only one-third or one-half strength, or as much as they can then take. As time goes on, they need more help, a stronger glass. Here it is difficult to estimate and state definitely the frequency in the possible change of lenses. If there are no symptoms, however, a change of lenses once every two years will do.

Nearsighted adults should be reexamined once yearly. What was said about nearsighted children applies in great measure to nearsighted persons of any age. In some instances this is especially true because the diseases to which nearsighted eyes are naturally predisposed begin to show themselves as results of neglect in youth. In presbyopia a reexamination and an increase in the strength of glass is required approximately every two years up to the age of 55.

Persons suffering from diabetes offer a difficult problem. Here the refraction and the acuity of vision fluctuate with the condition of the disease. Aside from the medical problem of treating the diabetes there is the problem of how to secure fair sight when the eye is so changeable in its visual power. The answer lies, perhaps, in the use of two different sets of glasses to meet the needs of the eye as it fluctuates from one sight level to another from time to time.

The proper adjustment of glasses covers a number of important points. The frame should not be too heavy and should fit comfortably on the nose and about the temples and the ears. The lenses should be set as close as possible to the eyes, but they should not touch the lashes. They must be accurately centered, so that the visual centers of the eyes look straight through the optical centers of the lenses. In astigmatism the lens is set at the proper axis and must be so maintained by keeping the frame properly lined up. For the same reason it is best to have the lenses of oval shape when they are set in rims, so that they do not turn when the glasses are wiped. When bifocals are worn, the matter of proper adjustment becomes all the more important.

A special word of caution is required. Optical defects, as has been seen, are of various types and degrees. Even the two eyes in the same person are not often alike, and the glass that will give one person good and comfortable sight may prove a torture for another. The admonition here is against the not uncommon practice of using "friend husband's" or "friend wife's" glasses. All the love and loyalty in the world cannot make all eyes alike.

It would seem that I have discussed glasses from every angle; but there is one more point, an extremely important one, to which attention should be given. It is this: What should one do if glasses do not help to remedy the condition or remove the symptoms for which they were intended?

Here the physician is faced with a serious matter. The sight is poor; it may be growing poorer; strain and effort to see better are of no avail, and glasses do not help.

"What is the trouble?" anxiously ask many patients after much changing of glasses, sore trial and suffering.

It may be due to the existence of some serious disease in the eye, an oncoming glaucoma, a developing cataract or a degeneration of the optic nerve.

One must remember that the eye is an integral part of a vast, intricate organization, the human body. The eye consists essentially of the same tissues as other organs and is subject to the same laws of health and disease. It has diseases peculiar to itself and is at the same time greatly affected by disease elsewhere in the body; it is sometimes the starting point of disease that later spreads to other organs.

By virtue of the eye's transparency and accessibility it is possible for the eye physician to study its finest tissues. These often show conditions that exist or are developing, not only in the eye itself but in the remotest organs. Inside the eye the blood vessels are spread out for inspection, possibly telling and foretelling of the hardening of arteries throughout the body. The existence of syphilis, kidney disease, diabetes and many diseases and disorders can be diagnosed by an expert medical study of the eye. This study should invariably be made at the same time that the eye is being examined for the correction of the optical error.

Many persons seek relief for poor sight; glasses may correct the condition, or the defect may be due to some grave disease. For the good of the sufferer, the opportunity should be utilized, in every case, to examine medically every phase of the eye's health. If the eyes are examined only with reference to glasses, not only are they frequently not helped, but they are often harmed by criminal neglect.

When sole reliance is placed on the aid of glasses, ignorance of the existence of serious conditions causes loss of valuable time and the sight of many eyes.

Let it be remembered: It is the soundness of the entire eye, as well as the need for optical correction, that should be the aim of every ideal and complete examination. Only thus can the disastrous toll of neglected and doomed eyes be abolished.

[NOTE.—In the December HYGEIA, Dr. Cohen will discuss crossed eyes, jerking eyes and paralysis of muscles.]

A Housewife Looks at the Committee on Foods

By Doris W. McCray

XIV. Committee Acceptance of Meats

"HOT DOGS," if they meet certain requirements, are accepted by the Committee on Foods of the American Medical Association! This news will delight children all over the country. Mothers, who hesitated about letting their children enjoy this popular favorite, can now choose an accepted brand of wieners. Each accepted "hot dog" wears a paper collar bearing the Seal of Acceptance awarded after complete information on the sausage, as required by the Committee, has been provided, including assurance that the meat, the packing plant and the preparation have passed the inspection and requirements of the U. S. Department of Agriculture. Absolutely fresh meat from healthy animals is required. Prompt handling, proper refrigeration and strict sanitary control are necessary. The Seal of Acceptance means that the food contains no harmful ingredients and that all practical precautions are taken to prevent contamination; it means that the food is wholesome. Look for the Seal of Acceptance before making a purchase and thereby support those manufacturers who are cooperating with the Committee on Foods in establishing truthful advertising throughout the food field and in the distribution of such foods as meet its requirements.

School children enjoy roasting wieners over a crackling bonfire after a brisk hike in the country and other outdoor exercise. An accepted brand of wieners was also perfectly delicious when broiled beneath the fiery red coils of my electric oven. Served sizzling hot, brown and crisp, they had a rich, spicy meat flavor that was truly delicious.

The Committee on Foods has accepted a brand of beef stew, also beef loaf and corned beef hash. It is wise to have these cooked meats on the pantry shelf for emergency use. The hash is best when browned in a skillet, but I have found it convenient to heat the meat loaf and the stew before opening the can. Submerge a can in water and boil it for about twenty minutes. Then open the can and turn out on a warm platter the piping hot contents, savory with the enticing, rich aroma of good meat and seasonings.

Changing concepts of nutrition have brought, among other things, a revaluation of meat in human diets. Speaking before the eighty-fifth annual session of the American Medical Association in Cleveland this year, Dr. James Somerville McLester, President-Elect, said, "The day was, when, in order properly to nourish the sick person, the physician told him what he must not eat; now, he is told what he must eat. This changing concept of nutrition marks a great advance in clinical medicine. The great discoveries of recent years have excited the interest of every one, laymen and physicians alike, and today medical men are keenly alive to the vastly important part which nutrition plays in the prevention and treatment of disease; a radical change in the conception of the nutritive needs of the sick person has come about. Now physicians think chiefly in terms of general physiology, of the good they can do the patient as a whole.

"Changing concepts of nutrition are not the result of an uncertain drift of opinion. Far from it. They express the broader understanding of man's nutritive needs that has come with the discoveries of recent years and represent the well considered application of knowledge gained, little by little, from painstaking research and careful clinical observation. This is the way of progress." Dr. McLester was formerly a member of the Committee on Foods, an honor and responsibility he received in recognition of his learning and leadership. He is the author of a book, "Nutrition and Diet in Health and Disease."

A recent editorial in *The Journal of the American Medical Association* states that "as a result of the propaganda of various food faddists, commercial and otherwise, . . . competent and sane advice about food has been a good deal discredited, since the average person does not appear to be able to discriminate between those who know what they are talking about and those

who do not. A great many people therefore attach themselves . . . to one of the following groups: (1) those who pooh-pooh all advice about diet and eat whatever they want with indifference or with defiance; (2) those who become overanxious concerning food and often overcredulous as to food theories so that they try all the advice they can get, either at one time or in series, ending up in a sad state of mental confusion; and (3) those who become zealots, adopting some particular food fad and sticking to it with a perseverance that would be admirable in a better cause."

Attacks made on meat because it is "hard on the kidneys" have recently been found to be unwarranted. The sound information of scientific articles on nutrition should replace the food fads promulgated and discourage the adoption of fanatical and pseudoscientific diets.

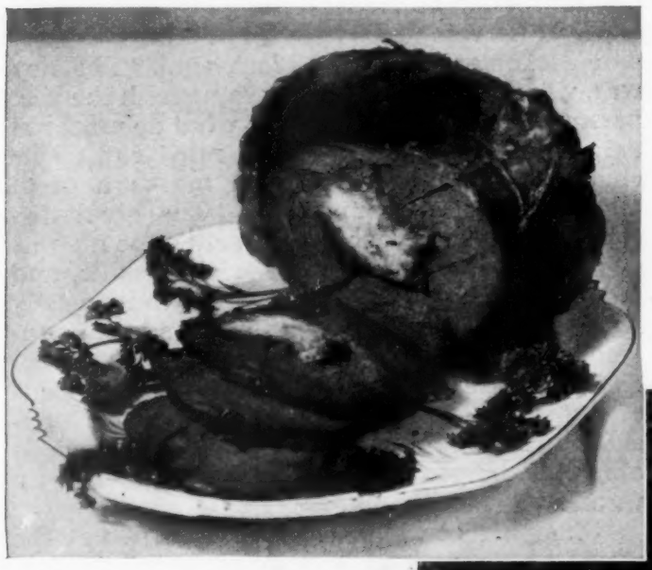
Meat has been undeservedly attacked because "it forms acid in the body." In this connection, a recent decision of the Committee on Foods is pertinent:

Acidosis and acid claims, and the words "acidosis," "acidity" and "acid" are frequently used in advertising to play on vague fears of the public. The usual well-balanced diet includes many alkali yielding foods —milk in its various forms, fruits and vegetables. Acid forming diets are not a practical nutritional problem because a good modern mixed diet adequate in minerals and vitamins can scarcely be potentially acid. It is appropriate to call attention to the fact that certain foods are potentially alkaline, or yield alkaline mineral residues in the body.

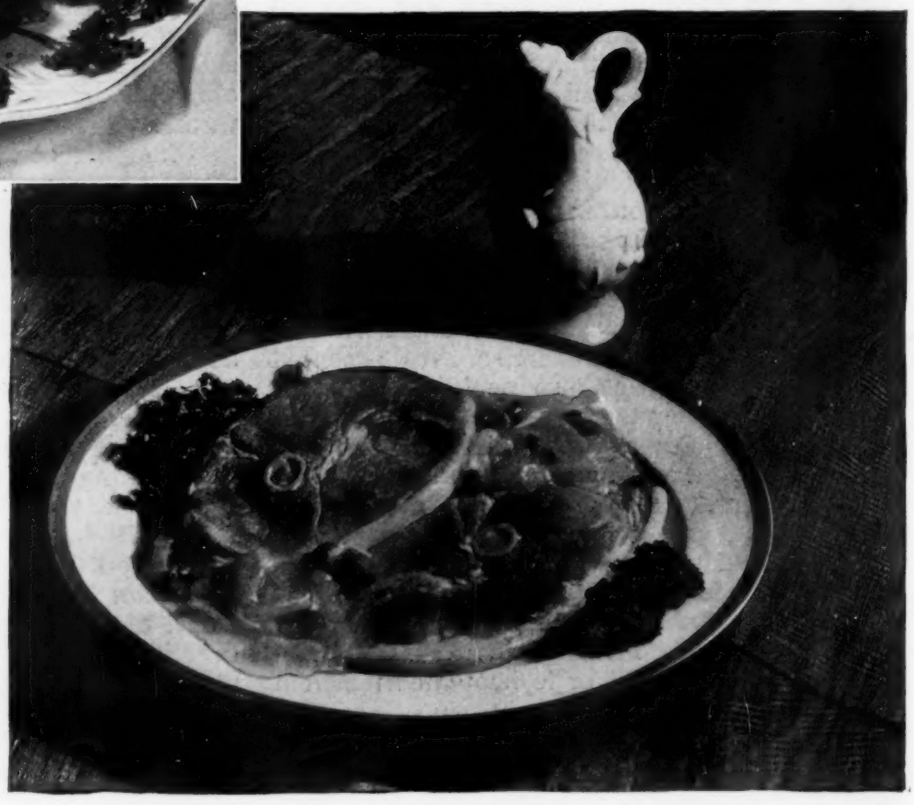
Acidosis is a medical name for a morbid condition of diminution in the reserve supply of fixed alkali in the blood and body fluids. Most people have no conception of the true meaning of the word and are quite likely to confuse it with gastric hyperacidity or "acid stomach," or to conceive of it as "acid blood," a condition which would be incompatible with life. The term "acidosis" is so little understood that its use in any advertising except that restricted to the medical profession is misleading and consequently disapproved.

The normal, average person need have no fear of eating meat in moderate amounts in the usual mixed diet. The person who is not normal should consult a reputable physician for an examination to determine his physical condition. If necessary, the physician will outline a proper diet.

Meat fits into the average diet of a well person admirably. It furnishes the highest quality of protein for building the body; without the proper quality and quantity of protein, life cannot be maintained. The function of protein is to provide certain nitrogen-containing amino acids needed for growth of children and for the repair of worn-out body tissues in both children and adults. The chief proteins found in meat are myosin, which is the basis of muscular tissue; serum-albumin, found especially in the

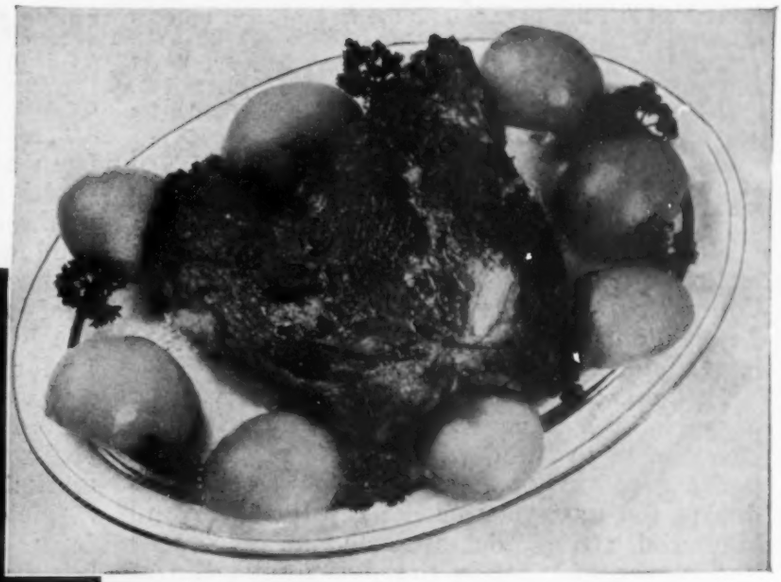


Baked heart, the center stuffed with bread stuffing, is delicious and a rich source of food iron.



Meat furnishes a good starting point when planning menus. Consider such an old favorite as ham baked in cider, with spiced fruit as a colorful accompaniment.

Braised chuck roast with peach halves, an economical dish, is excellent when properly prepared.



A crown roast of lamb or pork is an attractive and splendid dish for the Thanksgiving feast.

blood; and the albuminoids, which are the proteins found in the skin and the skeleton.

A few years ago it was generally taught that peas and beans were excellent substitutes for meat. A complete revision of views formerly held is now necessary in this respect, for it is recognized that not all proteins are equal in their nutritional value; the proteins of peas and beans, for instance, are inferior nutritionally to meat proteins. This is one of the reasons why the general adoption of a strictly vegetarian diet is not recommended by recognized authorities in nutrition.

The nutritional value of meat and many other subjects are discussed in the second revised edition of "Ten Lessons on Meat." This booklet, which bears the Seal of Acceptance of the American Medical Association, is planned for use in schools and is published by the National Live Stock and Meat Board. It includes lessons on the physical structure and chemical composition of meat; identification and selection of meat; principles of meat cookery; preparation of the tender cuts by roasting, broiling and panbroiling; preparation of the less tender cuts; mechanical methods of preparation of the less tender cuts; soups; the value of meat as a food; feeding the family for health, and the art of carving. Supplementary food charts, which diagrammatically present the relative caloric, calcium, iron and copper, phosphorus, protein and vitamin values of certain common foods, are also available as a separate booklet covering simple information on nutrition. These publications are noteworthy because, before the Seal of Acceptance was awarded, they were carefully checked for accuracy by the authorities who constitute the Committee on Foods.

Meat is a subject which interests every housewife keenly. Meat is liked by the family and it furnishes a good starting point when planning menus. There are many old familiar favorites: roast pork and apple sauce, steak and mushrooms, liver and onions, roast lamb with mint jelly, and ham baked in cider. With a delicious meat, it seems easy to plan vegetables, gravy, salad and even the soup and dessert courses which fit into the scheme. The lean meats seem naturally to fit in with rich, heavy desserts in winter. Pork calls for a lighter dessert as well as for fruit in the menu. The combination of fruit with meats is colorful and correct. Consider spiced prunes or apricots as a garnish for the meat platter. Sautéd slices of pineapple with canned halves of pears holding a spoonful of colorful jelly in the center of each form a charming decoration for the meat loaf.

The principal accepted claims used by the Institute of American Meat Packers in the promotion of meat follow:

1. Meat is an excellent source of high quality protein.
2. Lean meat, kidney, liver, heart and tongue are among the richest sources of food iron.
3. Lean meats are rich in phosphorus.
4. Lean meats supply most minerals required in nutrition in good quantity excepting calcium.
5. Lean meats are a good source of vitamin G (B_2).
6. The fat of beef animals is a good source of vitamin A, while oleo oil and oleomargarine made from it are rich in vitamin A and contain vitamin D.
7. While lean meats furnish modest quantities of calories, the fatter meats supply liberal amounts, and

bacon and salt pork are among the richest food sources of calories.

8. Edible specialties, such as liver, kidney, heart and tongue, are good sources of vitamins A, B and G.

9. Meat is one of the most digestible of foods, its protein being almost entirely digestible.

10. The body fats of beef, pork and lamb, as well as prepared shortening such as lard or oleomargarine, are from 96 to 97 per cent digestible.

The same organization of meat packers has a leaflet on statements about meat accepted by the Committee on Foods of the American Medical Association, and a meat cookery booklet which is available to housewives.

The meat packers, through their various organizations, have worked directly with the government to standardize and to regulate the packing industry. Losses in the stock-yards during the past year as the result of fire and industrial strikes demonstrate the enormous importance of meat in the commercial life of the nation. Whether we are interested in meat as producers or distributers, or merely as we are affected by the industry and business in general, we are, nevertheless, interested in our own personal breakfast bacon and dinner beefsteak, and the price thereof.

Price has been the concern of various agitators, who are always wanting the government to investigate and to regulate. One point in regard to the price of beefsteak is little understood by the average beefsteak consumer who scans the daily market page and notes the price of live stock. It is not a simple matter to state in a few words the principles underlying price determination. The fundamental facts, however, are that live stock prices, at any one time, depend primarily on the value of meat and its by-products, the edible meat being the most important determining factor.

The by-products may be listed as follows: hides and pelts, bones, horns, hoofs, wool, hair and bristles, meat scraps, glands and organs, fats and the edible by-products. Highly important medicines, such as thyroid, suprarenalin and pituitary extract, are manufactured from the glands of animals. Surgical ligatures, the rennet used in making cheese, and other interesting products are also furnished by animals.

Both supply and demand vary. Meat is extremely perishable, and the packer and the retailer have to consider operating costs, as well as the actual cost of the meat. Unfortunately, only one quarter of the beef, and hence, only a little more than one eighth of the live animal, consists of loin and rib, the only cuts that bring a profitable price. The stewing cuts bring a relatively low price. Therefore, when a retailer has bought a side of beef, he has to charge a relatively high price for porterhouse steak in order to equalize the loss on the rest of the beef.

The meat packing industry is vigorously regulated by the U. S. Department of Agriculture, as empowered by Congress. According to the definitions of this department, "flesh is any edible part of the striated muscle of an animal. The term 'animal' as herein used, indicates a mammal, a fowl, a fish, a crustacean, a mollusk, or any other animal used as a source of food."

"Meat is the properly dressed flesh derived from animals sufficiently mature and in good health at the time of slaughter, but is restricted to those portions of the animal considered as good meat. It must be fresh, with no substantial change in character since the time of slaughter." Beef is defined as the meat derived from cattle nearly 1 year of age or older; veal less than 1 year old, with minimum age fixed in certain states and cities; mutton is over 1 year old and lamb less than 1 year; pork is from swine, and venison from deer. It is a serious offence to market a meat under the wrong name.

"Meat by-products are dressed, edible parts from sufficiently mature animals in good health at time of slaughter." Examples of such by-products are liver, kidneys, heart and tongue.

"Prepared meat is the product obtained by subjecting meat to a process of comminuting, of drying, of curing, of smoking, of cooking, of seasoning, or of flavoring, or to any combination of such processes." Definitions are given for cured meat, dry salt meat, corned meat, sweet pickled meat, dried meat, smoked meat, canned meat, Hamburg steak, potted meat, sausage meat, and for meat food products which include meat loaf, pork sausage, brawn, headcheese, souse and scrapple.

According to the Federal Food and Drugs Act, "an article shall be deemed to be adulterated, in the case of food, if it consist in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter."

Federal inspection is carried on only in those packing houses and plants which prepare meat for interstate or foreign shipment. This efficient inspection service of the Federal Government detects infection centers, where diseased animals originate, eliminates unfit meat from interstate commerce, insures wholesomeness, clean handling, truthful labeling and stimulates the foreign purchase of meat. State laws regulate the slaughter and sale of animals within the state, and cities supervise meats sold within their limits, just as they inspect local milk supplies.

Really good beef has firm muscular tissue or flesh with a minimum of strength in fiber and connective tissue. There must be liberal deposits of fat between the muscle fibers, giving the cut surface a streaked or marble appearance. This fat, together with the juice or extractives, gives the meat juiciness and flavor. The cut surface of this sort of beef has a fine grain and is smooth and velvety to sight and

touch. The color is light, or cherry, red. The cut surface also presents a sheen or reflection not apparent in beef of poorer quality; this results from the fine grain of the meat, the consistency of the juice and the oil of the fat giving a smooth surface which reflects light much better than the relatively dry, or watery, coarse fiber of poorer quality beef.

Best beef has a smooth, even covering of brittle, flaky, white fat over most of the exterior surface of the carcass, an even, though much thinner, covering of flaky, white fat on the interior surface of the ribs, and heavy deposits of fat between the large muscles. The bone is hard and flinty white.

There are five official standard grades of veal. Industrial districts in which large foreign settlements are located, particularly those made up of the Jewish and the Slavic races, furnish the best market for veal. The demand for veal varies considerably; some veal is imported and none exported, since veal is usually on the market because of feeding conditions which would make it unprofitable to hold the animals until they were over 1 year old. An economic loss would occur if it were necessary to hold all animals for that period, and in some cases it would be necessary to destroy the animals at birth rather than have the expense of feeding them for a year.

There is little demand in this country for mutton, although lamb is well liked and profitably produced.

A thorough study of the charts showing various cuts of meat, their characteristics, appearance, and methods of cooking would surely be profitable to every housewife. When carefully cooked and seasoned, many of the less expensive cuts are truly delicious, a point most housewives need to bear in mind today.

Since the establishment of experimental meat cookery, carried on in the various universities and in the Bureau of Home Economics of the U. S. Department of Agriculture, some revolutionary changes in the cooking of meats have occurred, so that the cookery teacher finds that many of the old methods of cooking have been modified. It is no longer considered necessary to sear meat at high temperature. Roasting with the cover off produces a desirable brown at an oven temperature around 300 to 375 F. It is not necessary to baste the meat to preserve its juiciness while it roasts; however, it should be put into the roaster with the fat side uppermost. If the meat is especially lean, as in the case of beef tenderloin, it may be covered across the top with a thin blanket of fat or suet, which the butcher can tie or skewer to the meat.

Veal is an exception to the rule that the roaster need not be *(Continued on page 1050)*

WARNING

If I
sneeze,
They say
please
Don't catch cold!
If I
sniff,
They say
if
You aren't big enough now
to remember
That mittens are worn
in November
And to button your coat
to your chin,
Somebody will have
to stay in!

— BEATRICE CREIGHTON

ROBERT H. BROTMAN Concludes His Series in

Part III of

DENTAL DENS

The dental quack criminally assaults public health and accumulates wealth while doing so.

IT WOULD take volumes to describe all the injustices inflicted on the public by the advertising dental parlors and the manner in which patients are fleeced in these dens. Racketeers flourish in the dental profession.

Although the quack claims to practice honest, healthful dentistry, he criminally assaults public health and accumulates wealth while doing so. He does not hesitate to insert a bridge over infected roots. He inserts bridges with pyorrhetic teeth as abutments. He keeps thousands of little tricks in his bag and is always ready to extract an exorbitant fee. Innocent victims are attracted by his ads like moths to a flame. The financial losses and crippled bodies created by the quack would be enough to imprison him. His indecent, inhuman, unscrupulous methods are a disgrace to modern civilization.

As dentistry progresses, the charlatan is left by the wayside. He is not admitted into scientific dental circles. He is not eligible for membership in any ethical dental organization. He cannot see clinics by recognized authorities, nor can he hear their lectures. He is barred from all sources of dental knowledge. He is only interested in the commercial aspect of dentistry, and his chief sources of information are persons with similar interests.

Commercialization necessitates systematization and the dental den must be conceded this knowledge. The simple matter of a tooth extraction, for instance, is associated with definite procedures in the dental den. If the operator does not experience any difficulty, a certain mouth wash is prescribed. If any trouble arises later, the manufacturer of this product will protect the parlor against law suits.

If the operator encounters difficulty during extraction, other methods are pursued. An associate is always called in to assist or to bear witness to the procedure. When the patient returns for treatment, the doctors alternate in applying medication. If the injury becomes serious or if complications arise, the patient is referred to a specialist who is willing to work with the quack. The specialist is always one of sufficient repute to offer fair protection. All these things are done for legal protection, but in spite of all precautions many damage suits are made.

There are many reasons for recovery suits against the dental quack developing so frequently. Criminal negligence means nothing to him if he thinks that he can escape the law. Keeping a needle immersed in alcohol or boracic acid solution is insufficient protection against infection. Withdrawing the syringe with its mounted needle from the liquid, shaking it and drawing an anesthetic from a stock solution into the barrel does not furnish sterility. It invites contamination! In dentistry, unskilful hands, careless operating and lack of knowledge are dangerous weapons against public welfare. The combination is usually found in the quack.

The advertising dental quack's association with the administration of gas anesthesia is interesting. A salesman sells the proprietor the idea of using gas to build up his practice and to earn money. A demonstration is arranged wherein the charlatan furnishes several victims from his practice. The salesman brings his machine and places a patient under anesthesia while one of the dentists does a few extractions. Then one of the dentists administers the anesthetic to the next patient. The salesman impresses the proprietor with the fact that the machine is practically fool proof, and the sale is made. A wonderful course in anesthesia!

Special training is necessary to administer nitrous oxide or any other general anesthetic

properly. There are both indications and contra-indications for its use. During administration, there are symptoms and signs that indicate either normality or danger. Knowledge of these things does not come from reading a book, from a brief demonstration or even from actual practice. The theory must first be acquired, and training, usually in a hospital, under efficient supervision is absolutely necessary to produce a good anesthetist.

Nevertheless, the quack advertises: "Just a Few Breaths of My Air-Sweet. Go Off into a Pleasant Dream and Your Troubles Are Over. We Extract from One to Twenty-Five Teeth in One Minute." What unknowing person would not be impressed by such an ad? The quack's Air-Sweet, or whatever seductive name he may apply, is nothing more than nitrous oxide, or laughing gas, with or without oxygen. This he uses and abuses with a free hand, and disastrous results sometimes follow.

If the advertisements for the quack's Air-Sweet do not prove sufficiently productive of business, or if more business is desired, he sometimes resorts to other tactics. He may conduct a pseudo-educational campaign. The radio is usually utilized for this purpose, and a regular program is broadcast telling the listeners what a wonderful dental parlor is being conducted for the public's benefit and in the interest of health. The audience is gracefully warned and threatened with the results of dental neglect. The manner in which the charlatan is supposed to do his work is emphasized. A children's hour may be conducted as a means of interesting parents. The rule applied is: The amount of business is in ratio to the amount of advertising.

A good dentist does not need to advertise. His services advertise themselves. There is no better advertisement than a satisfied patient "who has paid his bill." Unless his personality is displeasing, a good dentist's services are in demand at all times. Every good physician and dentist with average judgment and personality is an eventual success. This does not mean that he becomes rich. He may die a pauper, but his reward during life is a fair livelihood.

While the reputable and conscientious dentist preserves health, prevents disease and offers succor, the quack creates destruction. I attribute more pyorrhea to quacks than to any other cause. They are interested in selling plates and bridges and not in public health. They may spend an hour to sell a bridge but not a moment to advise or to educate a patient in healthful dentistry. Their faulty fillings, poor crowns and restorations cause eventual pyorrhea and the ruination of many healthy bodies.

Nevertheless, the quack goes on unhampered, seeking new forces to replace the patients he loses. Like a general merchandise store, he offers his "leaders" to attract bargain hunters. When the customer enters he may buy something a little better or some other article or service than that which he saw advertised. Sometimes a deposit is obtained, and then the patient never returns. The quack finds that these cases create quite a substantial income for the year.

A frequent feature is the "free day" for certain types of services and for dispensing souvenirs. Foolish persons flock to these offices at such times to barter a house for a brick. Dental services cannot be rendered free any more than suits and overcoats can be given away free. An office of any kind is conducted under expense which must be covered by the income. Either other work takes care of the fee or some one else pays. One cannot sell silver dollars for 90 cents on a profitable basis.

The superiority complex seems to afflict the quack. He advertises the best of everything. His modern offices may not have an x-ray machine, and few if any have dry sterilizers. His best prices are costly. His best fillings are made of the cheapest materials and the cavities are seldom prepared correctly. The quack, however, does have the best collection methods and he does "get the best" of his patients.

When the quack advertiser tells you that he is particularly interested in nervous persons and that special care is given to them, remember he is only trying to get you into his lair. Nearly every one who enters a dental office is nervous. You are no exception! Sensitive teeth can be extracted and bridgework inserted to save the patient pain in the charlatan's den. The quack cannot be beaten at his own game.

Have you ever seen an advertisement claiming that roofless plates can be made or that

Shopping for cheap dentistry is ignorance. The patient does not buy dentistry; he buys the dentist.

teeth can be restored without platework or bridgework? Wizards! Lower plates do not have a roof, and only one of many uppers can be made to give satisfaction without a roof. Without platework or bridgework, it would be necessary to have every root present in the mouth. Pivot teeth are the only entire teeth restorations made without plates or bridges, but this can be explained diplomatically after the patient is in the operating chair.

These parlors advertise that no students are employed. Of course, they do not employ students, although they would if the law would permit it. Such proprietors are not public minded citizens who invest their money to see that patients are treated honestly. When the profession of dentistry is practiced for profits, the patient cannot receive the best services.

Did you ever see the sign: "Pyorrhea Treated"? Does it not sound as sensible as "Cancer Treated"? The psychology is similar in the two instances. The patient's teeth may have been condemned by doctors who know for a certainty that extraction is advisable and necessary, but he clings to the last straw and feels that there might be some value in the advertisement. The quack will treat the condition without sufficient knowledge of the disease as long as the patient will pay for it. The quack will then give up and probably get another contract for restorations.

Trade names, which are often registered, allure the layman. One quack may call his plates "Tight-Fit." From this, one would conclude that the plate would fit tightly and hold its position. It is, however, only one of many names. "Sure-Fit," "Stick-Well," "Triple-Suction," "Dream-Air," "Twilite-Air" and such names are misleading, but they are used every day. "A rose by any other name would smell as sweet."

Frequently a patient will ask the ethical dentist for a guarantee. The former wants to know whether the work is guaranteed for ten years and demands a certificate to that effect. Nothing in dentistry can honestly be guaranteed except that the best service the doctor can offer will be rendered. Plates fit today that will not fit next month. One cannot even guarantee that one's own perfect teeth will remain for ten years. The honest man always makes good his errors. The quack will always find an excuse.

Such advertisements as "Fillings in Gold, Silver Platinum and Porcelain—89 cents" are commonly seen. Notice that there is no comma between silver and platinum; a casual reader would think that he could get a platinum filling for less than $1. In the first place, platinum is not used as a filling material, except in minute quantities when alloyed with other metals. The patient naturally wants the best, and the quack raises the fee for the one who desires the platinum. The charlatan may show the patient a bottle containing silver alloy with the label reading: "This alloy contains platinum." It does not say that it is only 0.1 per cent, and the ignorant patient may think that the word "alloy" means bottle! This trick works, and even intelligent patients, knowing that platinum is costly, are willing to pay more if they think that the alloy contains platinum.

It is to be hoped that the day will come when every sign reading "Dental Surgeon" and "Surgeon Dentist" will have been used for kindling wood. There is an erroneous conception regarding these individuals. The title was awarded in 1699 to differentiate between the barber and the scholar. Since many believe that the surgeon dentist is better than the ordinary dentist and can do surgical work while the other cannot, the sign is frequently used to ensnare the patient into dental dens. The title of "Doctor of Dental Medicine" would be more appropriate.

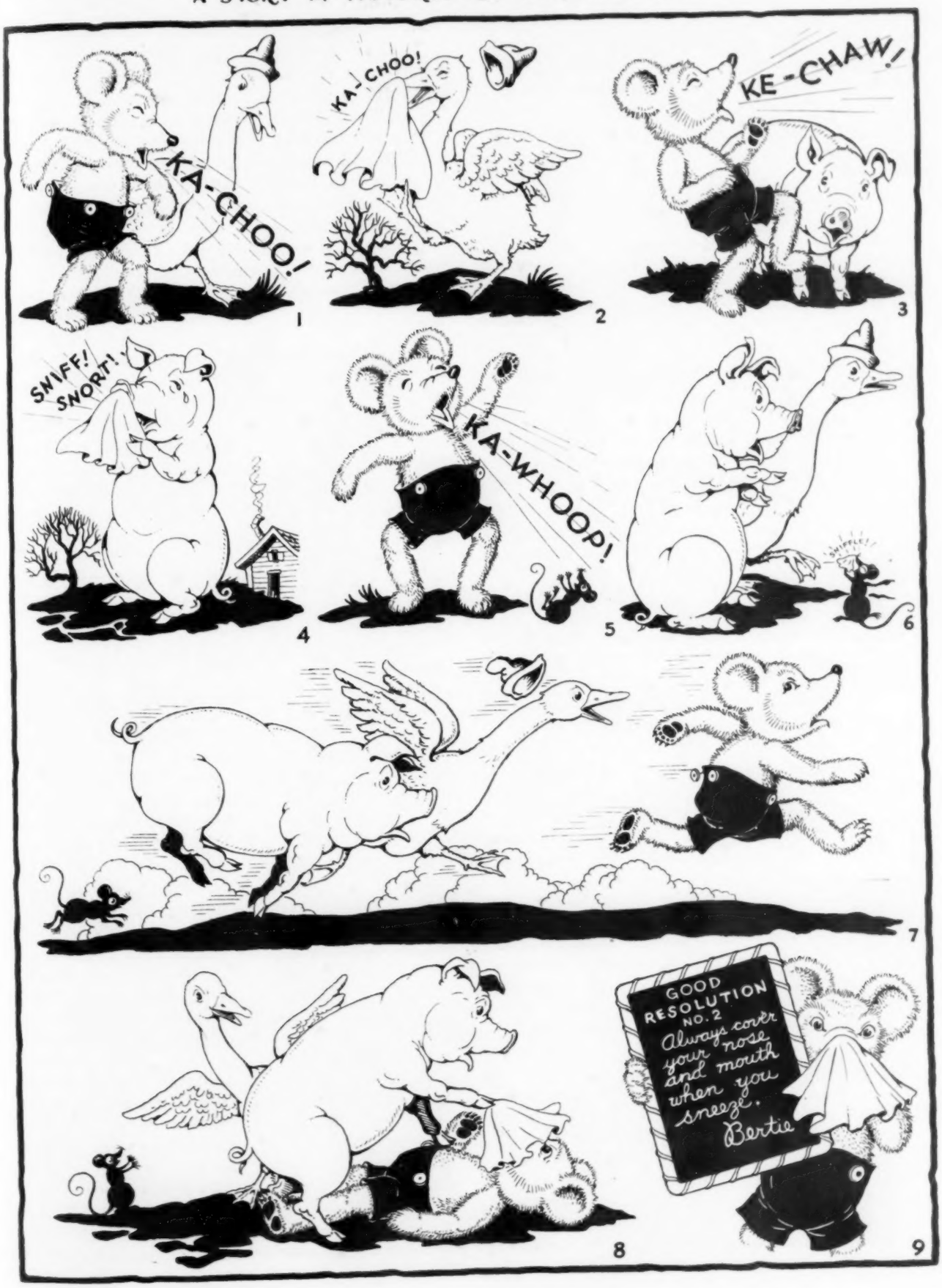
You may ask the question, "Are all ethical practitioners honest and capable?" The answer is no. There are wolves in sheep's clothing. When the patient seeks a dentist, he should select one as he does a physician. Recommendations from reputable sources are valuable. The idea of shopping from dentist to dentist for services at the cheapest price is plain ignorance or lunacy. The patient does not buy dentistry; he buys the dentist, and he will not fool the doctor at his own profession. It is a fortunate thing for the patient that the black sheep in ethical practice are few in number.

The formerly large group of dental extortionists have nearly dwindled to the point of extinction. There were dentists, supposedly ethical, who charged fees beyond reason. They were good dentists and honest with the patient in every respect except in fees. The depression seems to have awakened them to the realization that they were wrong in charging exorbitant fees. Many of these men are now glad to see a patient for any fee. Their methods in the past created a general impression that all ethical dentists were high and that dentistry was expensive. This conception is erroneous, for good dentistry costs little in comparison with quack dentistry.

The American Dental Association is trying to improve existing conditions in dentistry. Many mouths are ruined, and public health is sacrificed because of these dental dens. Sometimes, the well read person does not realize the amount of existing ignorance. So many persons know so little about dentistry that they fall easily into the clutches of quacks and charlatans. It is surprising to see some of the genteel patients in these cheap dental parlors. They do not seek bargains, but the enticing advertisements lead them to the lair. The quack usually obtains greater fees from these patients than the efficient and ethical practitioner would have charged. Laws and education are sorely needed.

A DAY in the LIFE of BERTIE BEAR

A STORY IN PICTURES BY JOHN DUKES McKEE



AMBROSE O'PSHAW, *Detective*

The Story This Far

UNTIL he fell into the rain barrel and discovered that he was dirty, Ambrose O'Pshaw did not understand why people would not give him any business but only laughed at his sign, which read, "Ambrose O'Pshaw, Deteetive. I Solve Troubles." When he had put himself and his house in order, he went to see Widow Merrywell, who had called to consult him about her son, Henry, who did nothing but sleep in the orchard with the pigs. She did not know Ambrose at first, for he had so completely transformed himself.

A thunderstorm brought an idea to Ambrose. He went into the house and locked the doors so that Henry could not come in but was left outside to be washed clean by the rain. He was given fresh clothes and, when he was clean and respectable, he was allowed to enter. Ambrose had never eaten a finer meal than that which Mrs. Merrywell had prepared.

When he called the next day, Ambrose found Mrs. Merrywell in tears because Henry was again sleeping in the orchard. He went back several times and enjoyed the hearty luncheons, but he could not think of a cure for Henry. Then one day he watched a toad catching and eating insects. The toad was lively at first and then became lazy and went to sleep.

"I've solved our trouble!" Ambrose shouted as he ran into Mrs. Merrywell's yard. He sent her to awaken Henry, while he went into the house. He piled the table high with pots and pans, and when the mother and son entered, he explained that these were the criminals, because they had loaded Henry with so much rich food that he had become stupid and lazy. He sentenced most of them to twenty years in the attic and, as he went home, he was sure that Mrs. Merrywell would follow his advice. As he neared his house, he saw a new customer waiting for him.

Chapter III

THE MAN who was pounding on the O'Pshaw door turned as Ambrose hurried up the walk, and the detective saw that it was Mr. Grabpenny in person and looking as cross as two bears. Seeing the usual wrinkles in Mr. Grabpenny's face, Ambrose wondered if he felt badly.

"Perhaps he is always cross because he feels badly," Ambrose thought. "Or it might be that he feels badly because he is always cross! Hmm! I wonder if I can't solve his case sometime."

"Well, well, here you are at last!" Mr. Grabpenny said testily. "I thought you would never arrive. I've wasted several minutes here on your porch, Mr. O'Pshaw, and I would like you to know that my time is valuable, very valuable indeed!"

"I'm sorry I kept you waiting," Ambrose said humbly. "I have been out solving a case, but I hurried back as fast as I could. Why didn't you take that comfortable chair and rest here in the cool shade while you were waiting?"

"I've no time for resting," the visitor said grouchily. "I must keep hustling if I'm to get ahead in the world."

"I've heard that a little hustling and then a little resting make a fine, happy life," the detective answered. "However, you came on busi-

"In the past week no less than three balls have come flying through three of my largest windows."

By

NELLIE G. HERRIMAN

ness, no doubt. Is there anything I can do for you?"

"Well, there might be," the caller said shrewdly. "What are your prices for detecting?"

"I can hardly answer that," Ambrose said. "You see, some cases might be much more difficult than others, and so require more time and thought. Then the price would be higher, of course."

"My case will be easy, so you must promise that your price will be small," Mr. Grabpenny said. "I don't mean to be cheated."

"I promise I will not cheat you," Ambrose told him. "If you will just tell me what your trouble is, perhaps I can give you an idea of the amount."

"You will not charge for listening to my trouble?"

"Of course not."

"Well, then, this is the trouble. Some boys have a baseball diamond on a vacant lot near my house. They used to play in my back yard, my son is on the team you know, but I made them find a new playground because they were wearing out the grass. And besides, they were always getting drinks, and that made my water bills high. When I told them they couldn't play in my yard any more they went to the man who owns the vacant lot near my house, and he allowed them to make a new ball diamond there."

"Very kind of him!" murmured Ambrose.

"Very foolish of him!" snapped Mr. Grabpenny. "However, if he wants his land ruined, it is his own affair."

"Hmm! Yes!" The detective rubbed his long chin. "But what can I do for you?"

"You can help me collect damages for three broken windows."

"Three broken windows?"

"Yes. In the past week no less than three balls have come flying through three of my largest windows. Now, I'm a poor man, Mr. O'Pshaw, and I can't afford to pay for broken windows, so the father of the boy who threw those balls must pay for them. I want you to find the boy who threw the balls."

"Did you ask any of the boys about it?"

"Indeed I did! My son kept saying that he threw the balls, and the others refused to talk."

"Then perhaps your son threw the balls, as he said."

"Ridiculous!" shouted the miser. "You are a poor detective if all your ideas are as stupid as that! I'll have you know, sir, that my son never threw a crooked ball in his life! He has won many a throwing contest. His balls are always straight as an arrow, so it would be impossible for him to send one through a window by accident, and of course he would not do it purposely. I say, sir, one of his friends threw those crooked balls, and my son is shielding him."

Ambrose thought unhappily that this might be an unpleasant case to solve. He rubbed his chin and tried to think of an answer to the problem.

"Well, do you accept the case?" inquired Mr. Grabpenny testily. "I can't stand gossiping all day. Now, if you'll find the guilty young rascal, I can collect the damages from his father, and you may have one fourth of the amount for your fee. Is that satisfactory?"

Ambrose nodded miserably. The case did not sound at all inviting, but he was badly in need of the money. Besides, the guilty boy must be very unhappy, he thought, and perhaps he might be unable to relieve his troubles.

"Yes, it will be satisfactory," he said.

"Then come along," Mr. Grabpenny said, and started down the road at a rapid pace. "We'll have to hurry if you are to get anything done before luncheon. I have a horse, but he eats more when he is driven and I can't afford to waste money for riding when walking will do."

"I'm sure that walking is better for us," Ambrose panted, making his feet fly. He never had dreamed Mr. Grabpenny could walk so fast.

"Perhaps you are quite a good detective, after all," Mr. Grabpenny said approvingly. "Many people have never learned that. But come along, come along!"

When they arrived at the shabby Grabpenny house, Ambrose went to the ball grounds in the vacant lot, while Mr. Grabpenny hurried off about his work. For some reason no boys were at the field, and the little detective was able to work without interruption. He measured with his eye the distance from the pitcher's plate to the house and whistled in astonishment.

"Whew!" he exclaimed. "The fellow who threw a ball through those windows has a fine arm!" He strolled about, rubbing his chin in deep thought. "Moreover, the ball surely was thrown, for a batted ball would not go in that direction, unless it was a foul ball. Hmmm! From my boyhood games I remember that a foul ball does not carry far. As it could not have been a batted ball, it must have been a thrown ball. Well, I must watch a game to see who is able to throw a ball so far."

"Have you solved the problem?" said the rasping voice of Mr. Grabpenny behind him.

"Not yet," Ambrose said. "I shall have to see a game before I can tell who threw the ball through your windows."

"The boys will not play again until afternoon," said Mr. Grabpenny. "You will have to stay to luncheon, I suppose. I will deduct the price of the meal from your fees."

Mr. O'Pshaw accepted this ungracious invitation, for he knew he would not have time to trudge home and back in the heat and dust in time to see the game. He followed his host into the scantily furnished little house where a bent, white-haired little woman was setting a table.

NELLE FARNAM.

Granny Humber crept to the table again and again with a pitcher in her hand and filled the glass to the brim with milk.

Word was whispered about the village that Mr. Grabpenny's housekeeper was often unpaid and hungry, and Ambrose thought with pity that this might be so. The old lady looked at her employer's face uneasily.

"Luncheon will be served as soon as the young lad is ready," she said nervously.

At that moment the door burst open and a sturdy boy entered. Without glancing toward the row of hooks behind the door, he flung his cap in that direction. It caught on a hook and rocked merrily back and forth, but did not fall. The boy stopped short when he saw the visitor.

"This is Mr. O'Pshaw, the detective," explained Mr. Grabpenny. "He has come to find out which of your young friends has been breaking my windows."

"How do you do?" Johnny murmured politely and then turned to his father. "But, Father, my friends did not break the windows. I d—"

"Now, Johnny, there is no need to try to shield him!" his father interrupted. "Some young scamp is guilty, and I mean to make him pay well for his carelessness."

The boy's face flushed. "I'm not shielding any one! I—"

Mr. Grabpenny raised a hand as if the subject were closed, and Granny Humber, the housekeeper, announced that luncheon was ready. The scanty meal was eaten almost in silence. Johnny's face was troubled, and Mr. Grabpenny ate rapidly and without ceremony. Ambrose wondered whether all meals in that house were so hasty and unhappy. Perhaps, he thought, unpleasant luncheons might partly account for Mr. Grabpenny's unpleasant ways.

The meal was most meager, but the detective noticed a large glass beside Johnny's plate. As they ate, Granny Humber crept to the table again and again with a pitcher in her hand and filled the glass to the brim with milk. Johnny smiled at her in thanks, and she hobbled back to the kitchen with a smile on her lips.

"You are making a baby of the lad!" Mr. Grabpenny snapped on one of these occasions. "He is too big to drink milk."

"But, Father, I like it, and it makes me feel great!" Johnny protested.

"Well, you must learn to take coffee with your elders," his father told him. "I can't afford to give you expensive milk much longer. I'm a poor man. Besides, coffee won't do you any harm."

The unhappy discussion was interrupted by a shrill whistle. Johnny drained his glass and pushed back his chair.

"There are the fellows!" he said. "Please excuse me." He snatched his cap from the hook and ran from the room as though glad to escape.

"Quite a lad, eh?" inquired Mr. Grabpenny proudly. "The finest player on the team, too."

Ambrose looked at him in surprise. So Mr. Grabpenny was fond of his son! People in the village often said that he loved nothing but money. The detective wondered just how many times gossip was mistaken.

The meal was finished in silence. Still feeling a bit hungry, Ambrose went to watch the game, but as it progressed, he forgot his emptiness. The ball whizzed back and forth, and ten or twelve merry boys shouted and laughed in excitement. Occasionally there was cause for argument, but Johnny's opinion was asked, his decision was accepted as final, and the game went on as heartily as before.

"Well, the boys surely trust Johnny!" Ambrose thought. "Even the opposite side asks for his decision. And how the boy can throw!"

Indeed, Johnny could throw! Every ball went from his hand straight to its goal, almost too fast to be followed by the eye. The boy's arm would go through the motions of winding up, there would be a sharp, singing sound, and a dark streak would whiz past the batter. There was no doubting that Johnny could throw fast and far.

"I do believe Johnny is the only one on the team who could send a ball through those windows," the little detective thought. "But how did he ever happen to do it?"

When the game ended, Johnny came and threw himself on the ground beside Mr. O'Pshaw and fanned his face with his cap.

"That was a fine game," Ambrose said.

"Yes," Johnny agreed. "We almost always have good games."

"Can you always throw so well?"

"Usually I can throw fairly well," the boy said modestly. "But last week I just couldn't send the balls where I wanted them to go. Something was wrong with my arm. Nearly every ball went wild. I broke three windows."

"So you did break the windows?"

"Yes." The boy's face was clouded. "Father came out and was awfully cross with the fellows, even when I tried to explain that I did it. I thought the fellows would not let me play any more, but they've been just grand. But I don't know how I will ever fix things up if Father won't believe me."

"He just won't believe that you could send a crooked ball," Ambrose said thoughtfully. "What do you suppose was the matter with your arm last week?"

"I wish I knew!"

"Hmm!" The detective chewed a blade of grass and watched a bumble bee balancing on a clover blossom. "Can you remember anything unusual about that week? Did anything exciting or different happen?"

"Well, not much, except that I heard Granny Humber talking a long time to the milkman, and then she cried after he was gone."

"Well, that was too bad. What seemed to be the trouble?"

"I don't know. Father made me go out to play, and I couldn't ask her."

"Hmm!" Ambrose changed the subject, and they talked for an hour about other things. Then Johnny explained that he had papers to carry and went away.

Mr. O'Pshaw scratched his head several times, then got up from the grass and went into the house. He found Granny Humber peeling potatoes in the kitchen.

"That's a fine boy!" Ambrose said, as Johnny's whistle drifted in from the distance.

"There's no finer!" she agreed. "He is always so cheerful and full of jokes that he keeps things pretty lively around here."

"He seems unusually strong and well, too."

"Yes, sir!" Granny Humber lifted her head proudly. "I've seen to that!"

"Well, well! A fine job you've done, too! Just how did you build such a strong fellow?"

"Ever since his own mother died I've stayed here, and I've tried to bring him up like my own son. The master is a bit careful about expenses, as I suppose you know, but I've scrimped and saved so that I could have plenty of fresh milk to give him, and any boy will grow if he has plenty of good milk. There was just one week when my boy didn't have all the milk he could drink."

"Only one week?" Ambrose's eyes were sharp. "Why did he go without milk then?"

The old lady hesitated. "Perhaps I shouldn't be talking to you like this, but the master said I was to tell you anything you wanted to know, so I suppose it is all right. The reason I didn't give him milk was because I couldn't get it for him. The master was a bit slow about paying the dairy bill, and the milkman wouldn't let me have milk any longer. For five days we went without it. I begged and begged of Mr. Grabpenny to pay the bill so we could get more milk, but he said the lad was big enough to go without it now. He said other things would be just as good for the boy and lots cheaper. Then I told him I would quit if he didn't pay me the wages he owed me, and he had to pay me because he can't find any one to work as cheaply. I've been buying milk with my own money this week."

"Just what week did you not have milk?" Ambrose said.

"It was last week."

"Hmm! The week when the windows were broken, eh?"

"Yes, although I don't see how there could be any connection."

Ambrose was rubbing his chin again. "What other things did Mr. Grabpenny mention that were cheaper than milk and just as good?"

"Oh, coffee, mostly. He figured that coffee is cheaper because it costs less than half as much as milk, and he thinks *(Continued on page 1051)*

The robin cocked a wise eye at him and daintily pulled another fat worm from the soil.

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Beyond the Textbook

IN THE future as in the past, the textbook on health will be the basis of health instruction in our schools and colleges. This is as it should be, for the textbook is written by recognized authorities who not only have a grasp of the technical aspects of the subject but are generally familiar with the best methods of teaching hygiene. These several excellent series of textbooks now on the market insure a bird's-eye view of the field of health. To the grade teacher, especially to the upper grade teacher who has many subjects to teach and a large number of pupils in her classes, the textbook is indispensable.

However, the teacher who relies solely on a textbook in teaching health is liable to be dull, uninteresting and quite unpractical. In spite of all that may be said in favor of textbooks on health, all have certain limitations. First, every textbook must be a condensation. Nutrition, for example, is such a broad subject that in a textbook adapted for any grade only a few of the most important problems and the facts associated with them can be presented. Often the textbook gives the bones but puts little flesh on them. Furthermore, a textbook can have little or no reference to local needs. In a community where there is much malaria, the school may need more information on this problem than can possibly be incorporated in a textbook. Finally, a textbook cannot hope to be thoroughly up-to-date. As soon as it is issued from the press, it begins to become obsolete. Within twenty-four hours some great, revolutionary discovery may be made in medicine, or some problem which had hitherto been of little consequence may be greatly magnified. The teacher who leans too heavily on the textbook may miss a glorious opportunity to capitalize some of these events.

The textbook marks a frontier, beyond which lie adventure and the lure of the unknown. The enthusiastic teacher will not be deterred by the unknown but will welcome it as a challenge to action. She will lead her pupils into the heart of it and inspire them to penetrate this fascinating world.

In the School and Health Department of HYGEIA this month we have as special contributors three outstanding leaders in health education who offer teachers valuable suggestions on making use of knowledge and activities which lie beyond the textbook.

There is no end to the vast amount of supplementary material on health education which is now available. There are innumerable talks over the radio. Newspapers and magazines contain countless articles dealing with health, and much health material is found incidentally in many other articles. Commercial concerns are willing to furnish printed material free.

Great care must be used in the selection of supplementary material, particularly that which emanates from commercial concerns. Many of these business organizations hope to ride into prosperity by associating their products with health. Some of this material is reliable but much of it is either false or misleading. Because of this, some cities have closed the door to the circulation of health material published by commercial concerns, but this seems to be carrying the matter a little too far since much of it is excellent. Probably it would be better to have such material as is reliable and helpful listed by some committee of the local board of education or by a committee of teachers. State courses of health usually refer to sources of reliable, free supplementary material.

The value of HYGEIA as a source of supplementary material should not be overlooked. The magazine not only contains articles of a general character on health, but also numerous articles and illustrations that are especially prepared for use in the classroom.

Teachers who are interested in preserving supplementary health material and having it readily accessible may use an ordinary wooden box for filing. The ordinary manilla folders used for filing may be bought for about 1 cent apiece. With such equipment teachers and pupils may file newspaper and magazine clippings, pictures, posters and pamphlets. Working in this way, teachers may be surprised to see how fast their supplementary health material will grow. Soon a modest but practical kind of library will be available, and such a collection will do much to supplement the regular textbook.

SOLVING HEALTH EDUCATIONAL PROBLEMS

Supplementary Materials and Their Uses

CHOICE OF SUPPLEMENTARY HEALTH MATERIAL

PAULINE BROOKS WILLIAMSON
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NEW YORK

EVERYDAY experiences may be enriched by the wise use of supplementary materials designed to give cultural background to daily health activities. The subject of food offers a splendid example. The essential information given in basal textbooks includes the amount, quality, preparation and sources of food required for various persons. This may be supplemented by a wide variety of material selected according to individual interests. For instance, the necessary cooperation of all those who make one simple meal possible may be studied; this may be expanded to include methods used by other races and by man at various stages of culture. Excellent source material may be found in *Spyglass*.

Wider significance may be given the foundations laid in the basal textbook through the use of supplementary books and pictures which describe how the people of other nations solve their practical health problems. For example, in the study of shelter and clothing, the struggle to obtain healthful environment becomes a problem common to people of all nationalities when the variety of methods used in various countries is presented.

Broader interpretations of our own health customs may be developed through a wide range of illustrative material from sources outside of the school. Plays, post-

ers, motion pictures, charts, advertisements and exhibits sponsored by the community may form the basis of this analysis. A collection of all material influencing the styles of clothing and the types of shoes worn by students is illuminating.

High school boys and girls themselves may be stimulated to prepare supplementary material for other groups such as their parents and younger brothers and sisters. The school paper should have a definite place among the school health materials and in the conduct of school and community health activities.

The abundance of supplementary material makes imperative certain standards for its selection. Teachers of young children have a great responsibility for the selection of supplementary material, although even young children can be encouraged in a questioning attitude toward it. Such questions as "Why do you like this?" and "Does it help you in what you are doing?" may be the first steps in developing a discriminating attitude. Even in the elementary grades, pupils may be taught to compare various authorities on the same subject. A scientific background developed from day to day in courses closely related to life situations is essential in creating an attitude of discrimination.

Increasing demands on time and energy make it important for students to learn to discard worthless material quickly. What contribution does certain material make to the solution of the specific problem under consideration? Is it the most important material for the group making this particular study? Is it effective in its presentation? Does the material stimulate a spirit of investigation? Is it scientifically sound? The teacher has a responsibility not only for stimulating such questions among the pupils but in being conscious herself of the value and the practical use of the material which she makes available to them. She not only has the responsibility of judging the value of material in the light of the questions raised by the pupils but also for its selection according to age levels, intelligence levels and individual interests. It is advisable to check it with other available sources instead of accepting popular opinion or hearsay in regard to its value. It is also necessary to know whether its physical make-up is conducive to the minimum of strain on eyes and nerves.

While it is extremely important to check the accuracy and authenticity of the information contained in supplementary material, it is even more necessary that the attitude created by it in the minds of the pupils is carefully checked. This is a more difficult feat than checking the information itself, because building up an attitude is a more subtle process. Once established, an attitude becomes powerful and difficult to change.

There are evidences that biographical sketches of scientists, who have contributed toward the advancement of health, definitely influence students in their own attitude toward personal and community health problems. Stories of the progress made by science in banishing fear of disease and in breaking the grip of superstition help to develop appreciation of the sacrifices which make simple preventive and curative measures possible today. Stories of great achievements in the field of science may stimulate further study among the students themselves and arouse a desire to use the scientific method in the conduct of their own lives.

Aside from checking its authenticity and its probable influence on attitudes, supplementary material should be carefully selected in relation to the basal textbook and to the everyday experiences of the students. This is necessary in order to prevent gaps and wasteful overlapping in the process of sensitizing the students to the health aspects of all daily activities. It should be of such a nature that unsurmountable conflicts are not set up. While it is important for the students to recognize that there are varied points of view, disagreement among authorities, and changing bodies of information about health questions, it is possible that their minds may become confused on certain issues. In order to avoid this confusion, it is well to select material which focuses attention on essential points and guiding principles generally accepted. All the material should be so integrated that it helps to build for the students a confidence in their own power and a better understanding of the joys of living and working together.

WIDENING THE HORIZONS IN HEALTH TEACHING

ANNE WHITNEY
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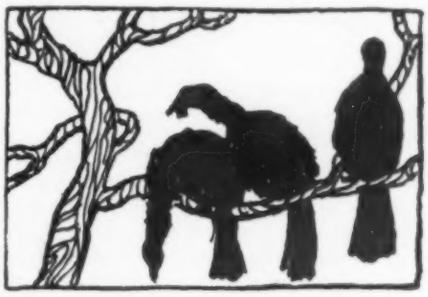
NEW YORK

LEAN though recent times may have been in many other respects, the last fifteen years have certainly yielded bumper crops of so-called supplementary material for health education. This elastic term is usually stretched to include everything and anything offered for school use in health instruction which has not the traditional cover of the textbook. It represents, therefore, a vast and motley array of bulletins, pamphlets, posters, plays, stories, games, "movies" and "talkies." From scientific and popular presentations of sound information, these range through various gradations of authenticity to the glamorous and often unreliable presentations which, with subtle salesmanship, exploit a health interest to develop a market for some commercial product. The careful teacher must, therefore, exercise judgment in selection as well as skill in use if she is to realize potential contributions.

In many classrooms supplementary material, like the camel's nose invited into the Arab's tent, has almost crowded out the textbook it came to supplement. And having gained possession, this camel of supplementary material is liable to ignore the existence of textbooks with a bland insolence so characteristic of the camel tribe.



Such a situation is more than unfortunate; it is a real menace to sound health instruction. While certain supplementary materials are legitimate and invaluable teaching aids, there always will be a vital need for the authoritative, basic information which only a well organized textbook can supply.

This discussion of supplementary materials is based, therefore, on the assumption that the phrase itself admits a priority to basic subject matter organized for instructional use in an appropriate form. To be really supplemental, material must fulfil some differing function and not duplicate the major function of the textbook.

What are some of these differing functions and what types of materials are best adapted to perform these functions?

Even the best of textbooks cannot, single-handed, meet the complexities of the average classroom where the individual differences and interests of two score or more children demand corresponding variations in materials of learning. You can lead a horse to water, but you cannot make him drink. The textbook may represent a well of information, but there must be a thirst for this information before young minds will drink deeply of its waters. A definite function for supplementary material lies in the creation of a genuine thirst for factual information by arousing curiosities. Material of this type reveals the textbook as a reliable source of facts which have meaning in the daily business of living, and it releases the potential usefulness of the textbook.

An example of this type of material is furnished by "My Progress Book in Health and Civics" or by some health problem provided by a news article or by such a booklet as "Objective Tests for Cleanliness and Health." The presentation may be varied in its form but must not be didactic. If, under one cover, queries are raised and ready answers are supplied, only tame mental sport is offered. Not only is the hunt finished before it is begun but it is also robbed of all the satisfactions of pursuit, capture and triumphant return with the spoils of the chase. The quest itself is an important part of all educational adventuring.

Two general criteria may be of assistance to the teacher in selecting material of this type. First, does it really encourage children to think? Second, does it provide true clues which lead in directions that will make the hunt a success in terms of sound health education?

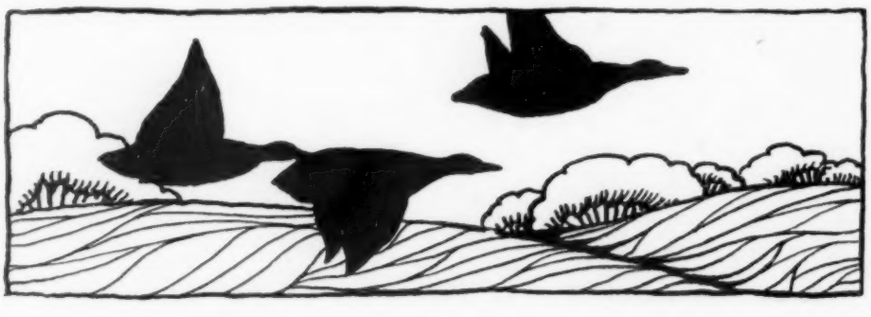
Closely related to this type of material is the material which enlists the interest of children by appealing to their imagination. Unfortunately for many years an erroneous idea that fanciful material alone could stir the imaginations of children had much vogue. Hard on the heels of this fallacy in thinking followed a flock of health fairy stories. Happily there is developing now an equally widespread conviction that the world of reality offers such vast ranges for the child's imagination that we do not need to supplement it with a world of unreality. Moreover, we are discovering that such practical matters as hygienic living, if they are to have a sturdy growth and a vigorous vitality, are best rooted in life as it is. Then, too, there are many who believe that the imagination which seeks and finds romance and high adventure in the world of reality is the more constructive and wholesome one to cultivate. True stories of real life provide useful types of vicarious experience as they reveal the health problems of everyday living in the way in which children may themselves encounter them. "Summer Fun" and "Skags, the Milk Horse" are examples of good stories for young children, while the "Health Heroes Series" appeals to older pupils.

Another type of material valuable as a supplement to the textbook is that which will extend the basic principles supplied by the textbook into broader fields of application. It is especially important that health principles are closely linked with the widening fields of knowledge which are being supplied young people through the social and natural sciences. Through these sciences, the understanding of the world is constantly being enlarged, and appropriate material can fuse the contributions of the health textbook with this expanding comprehension of life. Material of this type will be found in *Spyglass*. Such material strengthens the relationships between the various branches of subject matter and opens wide for the learner the walls of compartments in which specific information would otherwise be pigeonholed. An important criterion for selecting such material rests in whether or not the health implications suggested are genuinely inherent in these other areas of knowledge.

There is also need for additional material to help young people to truer perspectives on health matters. This is similar in function to the preceding material. It takes the specialized and concentrated health information of the textbook and dilutes it in such proportions with other considerations in living as to make it unite harmoniously with life as it is or may be. Examples of this type are such stories as "Spending the Day in China, Japan and the Philippines" and "How Other Children Live."

A third important type of supplementary material is that which retells certain aspects of textbook material in more vivid ways. Ideas are clarified for various minds through various mediums. For some, seeing is believing, while others learn best through hearing or through handling some tangible object. Charts, posters, still pictures, motion pictures, both silent and talking, models and real specimens for observation and demonstration, all might be listed under this general group. They provide an important contribution to health teaching.

Briefly, then, it is the function which must be clear in our minds if we are to choose supplementary materials wisely and use them effectively. So chosen and so used, they will no longer tend to push aside or ignore the textbook which furnishes the real justification for their existence; they will tend rather to widen the horizons of health teaching.



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ENRICHING CLASSROOM HEALTH INSTRUCTION

CARA L. HARRIS
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KNOXVILLE, TENN.

SUPPLEMENTARY material for teaching health should be determined by the health needs of the group to be served. As health education for young children is largely centered around the establishment of health habits, the type of health education material most helpful in working with children of the early grades will be that which has to do with ordinary activities in the child's day. For instance, stories depicting situations similar to those of common occurrence in the child's own daily life and illustrating desirable health behavior, safety games for habit forming instructions, demonstrations of correct hand washing, food models to be used in learning to select a suitable school lunch in the school cafeteria and many other such simple devices will prove worth while in providing new and interesting approaches in the field of health teaching.

At the present time, a wealth of supplementary health material is available, particularly for the early elementary grades; the problem is largely one of the teacher knowing what is sound and what will prove of value. The popularity of health education in more recent years has resulted in the preparation of a mass of undesirable material featuring the health idea designed purposely for propaganda use. Only the teacher's own training in health subject matter and in the technic of teaching health can safeguard the health program in regard to such material.

As children get into upper elementary and junior high school grades, with their range of contacts gradually broadening, they become more and more conscious of group interests and matters pertaining to community welfare. While there is still need for constant supervision by parents and teachers to secure continuance of health practices learned during the early years, and while an increased understanding of principles underlying these practices is called for, there also exists a constantly increasing need for knowledge relating to various other phases of the health program.

Many opportunities are provided in history, geography, English, general science, civics and other classes where health information relating to local problems could be advantageously used. The school nurse, for example, could be consulted by a committee from the civics class for information concerning certain specific health conditions in the school district, such as the incidence of diphtheria, scarlet fever or measles. The report could be used by the class in making a spot map for the school bulletin board and perhaps as illustrative material for student talks to be given before other school groups in stimulating response in the immunization program.

In this connection, attention should be called to the fact that health departments are usually well supplied with simply prepared material on many health topics which can be obtained on request. Free and low cost health materials may be secured from sources such as the federal government departments, state and national official and non-official health agencies and various other welfare organizations.

A suggestion should be included here in regard to the children's part in helping to make easily available for use by succeeding classes the bulletins, posters, charts, models and various other sorts of materials collected. A simple filing system with a card index carrying notations as to specific content of filed material could be developed as a regular part of classroom work. This would not only simplify the teacher's care of supplementary material but would also create pride on the part of the class in making a contribution to succeeding student groups.

In considering supplementary health material, special mention should be made of the present liberal supply of visual aids for health teaching, including glass slides, film slides and moving pictures covering a wide range of health topics, available at low cost or for small rental charges, and in some cases free with the exception of shipping charges. There are some phases of the school health program where certain types of visual aids are especially desirable. For example, moving pictures can be used to familiarize children with such a simple procedure as the Schick test or a similar activity and through the realistic presentation they may relieve the tension that often accompanies immunization clinics when groups are new to the procedure.

The health course for senior high school students, designed to provide scientific information on a high school level and built around a nucleus of subject matter in nutrition, physiology, bacteriology, psychology, sociology and economics will necessarily call for the laboratory equipment and supplies customary in presenting such subjects to high school students. Such equipment and supplies include charts, models, fresh and preserved zoological materials, bacteriologic slides, cultures, laboratory animals for feeding experiments, and apparatus for individual work and class demonstrations. To these should be added a liberal supply of supplementary material of current health interest to the student group.

As so many high school students go out into the community without further educational preparation, the high school health education plans should offer as much opportunity as possible to gain an understanding of community needs. The average community supports various types of health services about which these young people might well be getting some worthwhile, first-hand information as it will soon be their responsibility to support such community services. Trips to the city water works, the sewage disposal plant, local dairies, meat packing houses and the like, with points studied in accord with an outline worked out preparatory to making such trips, will help build up an informed community opinion as to these measures for health protection. An acquaintance with the service of the local health department will lead naturally to a desire to know more about the work of the larger organization of the city or county, the state and the nation to which the community organization is linked as one of the units in an extensive program for health protection. Information about these large organizations should be included in the high school health education program.

To Contributors:—*Although most of the articles in the column "Solving Health Educational Problems" are solicited, the editor of this department will be glad to consider contributions which deal with concrete and practical health education procedure in the school. Articles must not exceed 1,000 words.*

NEW HEALTH BOOKS
for teachers and pupils

THE Book, "Psychology and the New Education," [1] is something new in educational psychology. The conventional textbook on this subject has been extremely analytical. The student is introduced to a long and involved consideration of the nervous system and emerges in a confused and dazed mental condition wondering what it is all about. The human mind is cut up sharply into subjects such as attention, memory, reason and imagination. Much effort is spent in defining terms and in splitting hairs. One learns much about this experiment and that experiment, and may recite glibly on the conditioned reflex and yet know little more about the behavior of real children and adults than one did before.

Professor Pressey of Ohio State University is a pathfinder blazing a new road in educational psychology. He leaves out of his book much material that has found its way into the conventional textbook and introduces much that is new. His purpose is to organize his material in such a way that the student will see not merely human traits but individual, living children.

(Continued on page 1052)

1. By Pressey, S. L. Pp. 594. Price, $2.75; school edition, $2.25; exercises to accompany, 20 cents. New York: Harper and Brothers, 1933.

New Books on Health

DIABETIC MANUAL FOR PATIENTS

SECOND EDITION. By Henry J. John. Cloth. Price, $2. Pp. 232, with charts, tables and illustrations. St. Louis: C. V. Mosby Company, 1934.

THIS IS a nontechnical guide for those suffering with diabetes. The book is now in its second edition. Like many other such books, however, it is a little too technical in spots for the average reader. This applies particularly to the use of photomicrographs which are not understandable to any one who has not been trained in histology. On the other hand, the intelligent diabetic person may learn even from these pictures to ask intelligent questions and thereby to develop additional knowledge which is necessary for his care. The food charts which are a part of this book are among the best graphically that have been developed for use by the average reader. Altogether the volume is excellently illustrated and should be found useful by all diabetic patients.

MORRIS FISHBEIN, M.D.

THE MOTHER'S ENCYCLOPEDIA

Compiled and edited by the editors of *The Parents' Magazine*. Cloth. Price, $3. Pp. 595, with illustrations. New York: Reynal & Hitchcock, 1933.

THIS VOLUME is compiled and edited by the editors of *The Parents' Magazine* and is based largely on material published in that periodical since its inception. One hundred and thirty men and women have contributed articles which are arranged in alphabetical order. For instance, the book begins with "Adolescent Boys" and takes up next the food needs of adolescents and the growth of adolescent girls; then follows an article on adoption, one on affection in the family and next an article on allergy. These headings are an indication of the nature of the material. The book is excellently edited, and its style is such that any one of average intelligence may follow its meaning without difficulty. Such contributors as Bertrand Russell, Smiley Blanton, Hugh Chaplin, Ernest R. Groves and Angelo Patri indicate the high quality of the material. The book is one which should be found useful by every parent and educator.

M. F.

HEALTHFUL LIVING: BASED ON THE ESSENTIALS OF PHYSIOLOGY

SECOND REVISED EDITION. By Jesse Feiring Williams, M.D. Cloth. Price, $1.56. Pp. 622, with 325 illustrations. New York: The Macmillan Company, 1934.

THE NAME of Jesse F. Williams is one of the leading names in the field of health education. This book, now in its second edition, is a good volume of personal hygiene. It is organized according to the best established methods, beginning with a setting forth of the nature of man and his function and following with discussions of nutrition, circulation, respiration, the nervous system, alcohol and tobacco, rest, and first aid. Although planned apparently as a textbook for readers of high school age, the book should be useful to every one who is interested in the body and in its functions.

M. F.

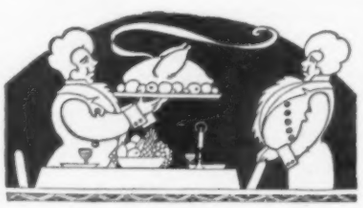
MEMORIES OF JANE A. DELANO

By Mary A. Clarke, R.N. Price, paper, $1; boards, $1.75. Pp. 62. New York: Lakeside Publishing Company, 1934.

THE STORY of Jane A. Delano's long and careful organization of the Red Cross Nursing Service and an intimate view of the preparation that made that work possible are presented in this little book by Mary A. Clarke, a classmate. She became Miss Delano's assistant when she served as superintendent of nurses at Bellevue and still later her assistant in organizing the Red Cross Nursing Service.

Because it was the early preparation and organization work with which Miss Clarke was familiar, the story, necessarily, deals with the steps in Miss Delano's life which led up to her great work during the World War rather than with that epoch-making service to which 296 American nurses gave their lives. Rather, an intimate picture of a woman who has received the plaudits of a grateful nation is presented by her co-worker.

DOROTHY M. BAKER.



MY BODY AND HOW IT WORKS

A FIRST PHYSIOLOGY. By Dorothy Walter Baruch and Oscar Reiss, M.D. Cloth. Price, $1.50. Pp. 99, with illustrations. New York: Harper and Brothers, 1934.

THAT human question mark, the growing, active child, is the dynamic center of this book, which appeared serially in HYGEIA under the title "I Want to Know: A First Physiology." The book is written for him and around him, and its purpose, which is admirably fulfilled, is to give clear straightforward explanations in a language that the child can understand and in a style that will appeal to him. The normal child, active in mind and body, is intensely eager to discover "what makes the wheels go 'round," and his interest in the wheels and cogs of the human machine is no less keen than is his curiosity concerning the workings of clocks, airplanes and engines. A healthy inquisitiveness and an honest search for knowledge merit the reward of earnest attention and serious, careful explanation that is given in this volume, in which the authors have wisely chosen to talk *to* the child but not *down* to him, and to teach but not to preach.

The elementary facts of anatomy, physiology and health are presented with forceful clarity in chapters of which the headings give a forecast of the content: Going from Outside In; The Parts of You That You See All the Time; What Happens When You Eat; What Happens When Your Heart Beats; What Happens When You Breathe; What Would Happen if You Had No Bones; When You Move; When You Light the Light in the Dark; When You See Things; Tasting and Smelling; Before You Were as Big as You Are Now; When You Grow Bigger; Mysterious Fluids, and As You Go On Living. The material is introduced through a foreword by Dr. Logan Clendening and a preface by A. J. Carlson, professor of physiology, University of Chicago.

Parents and teachers will find this authentic, excellently presented material of incalculable value, for it will help them to give intelligent answers to the intelligent questions of the young people for whose health instruction and health habits they are responsible.

LEOLA J. HARRIS.

QUESTIONS AND ANSWERS

Soaps

To the Editor:—Will you please send me the names of some soaps that are pure enough and mild enough for a baby's skin?

R. Q., Illinois.

Answer.—It is not possible to comply with this request, but there are many good soaps in common use and widely advertised which are perfectly satisfactory for a baby's skin.

Contrary to general belief, a white soap is not always best for a baby's skin. White soaps are bleached, and if they contain an excess of alkali they may be irritating. On the other hand, not all colored soaps have a natural color. The natural color of soap is green or yellow, depending on the oils used in its manufacture.

For practical purposes, any toilet soap in ordinary use, except artificially colored or perfumed soaps, will be satisfactory for a baby's skin. If irritation occurs, it is not necessarily because of the soap used.

Value of Viosterol

To the Editor:—Information is desired on the value of viosterol in the infant's diet. Why do doctors disagree on its value?

K. H. R., Wisconsin.

Answer.—Viosterol is artificial vitamin D. Vitamin D also occurs in cod liver oil, halibut liver oil, and salmon liver oil, and probably in the oils from the livers of other deep sea fish. If the correct dose is given in each case, the source of the oil should be a matter of indifference, except for considerations which do not bear directly on the question of vitamin D.

For example, some patients can take cod liver oil readily and others cannot. For those who cannot take cod liver oil, halibut liver oil or viosterol is undoubtedly the best choice. Cod liver oil concentrates are also useful if their potency is assured. In some cases, cod liver oil, which contains 9 calories per gram or about 36 calories to the teaspoonful, is desired as a source of fat in the diet of the child or even of the adult.

The disagreement among physicians about viosterol and cod liver oil is more apparent than real. The fact that one doctor may prescribe viosterol and another may order cod liver oil may be due to the fact that conditions differ in different patients or in the same patient from time to time.

The important consideration is that every infant's diet shall contain adequate amounts of vitamin D from the source most readily available and best suited to the needs of that particular patient.

Autopsies

To the Editor:—What are the principal obstacles to the procurement of postmortem examinations? Has the American Medical Association a committee with a definite program for promoting the idea nationally? What is the average necropsy percentage reached by the grade A hospitals of the United States for 1932 and for 1933? If there is a comparative study of the necropsy percentages of all the hospitals of this country for any or all of the last three years, where and how can it be secured? Is a definite minimum necropsy percentage a requirement for a grade A hospital? Must a grade A hospital show an annual necropsy percentage increase to remain in that grade? Is there a comparative study of the laws of the states and territories of the United States relative to postmortem examinations? If so, as of what date and where can it be secured? Since the attending physician must sign the death certificate showing the cause of death, can he not use that factor as a means of securing an autopsy whenever he feels that some benefit would be derived for the science of medicine? Where can I secure the facts concerning the number of persons who have died annually in each state and territory of the United States, of diseases for which no cures have yet been found, on whom no postmortem examinations have taken place because of the refusals of permission by the next of kin? Is there in existence a list of famous persons who have willed their bodies or parts thereof to medical science? Who was the first person to have demonstrated to the medical profession the relationship of the postmortem examination to the progress of medical science? Who was the first famous person in the United States to have willed his or her body or part thereof to medical science and what was the date of that person's birth or death?

A. J. B., New York.

Answer.—The medical profession is greatly interested in procuring as many postmortem examinations as possible in order to accumulate more information on the characteristics of disease and the causes of death.

Obstacles to the procurement of postmortem examinations are misunderstanding as to what such an examination means and an exaggerated idea of the amount of mutilation of the body. There are also some objections based on religious grounds. The principal obstacles, however, are fear of the unknown, suspicion based on superstition, and exaggerated sentimentality.

The American Medical Association does not have a committee on postmortem examinations, but the American Hospital Association has such a committee. A report of this committee was submitted at the annual meeting of that association in New Orleans in 1930. The report appears in the *Transactions of the American Hospital Association,* volume XXXII, 1930. It contains a list of references to articles on the subject of postmortem examinations. Copies of the transactions may be procured from the association for $2.

While the American Medical Association does not have any specific committee on postmortem examinations, through its Council on Medical Education and Hospitals it has definitely encouraged the performance of postmortem examinations in hospitals approved for residency in specialties. These essentials are embodied in a pamphlet published by the Council and available, postpaid, for 10 cents.

The following information is furnished by the American Medical Association's Council on Medical Education and Hospitals:

Necropsy percentages are not available for any considerable number of hospitals in addition to those approved for intern training. The necropsy percentages reached by hospitals that are approved for intern training (nearly 700) for the years 1926, '28, '30, and '32, are as follows:

PERCENTAGE	NUMBER OF HOSPITALS			
	1926	1928	1930	1932
Over 70.....	14	16	19	20
50 to 70.....	21	45	56	71
30 to 50.....	68	132	164	214
15 to 30.....	146	249	354	316
Under 15.....	329	189	71	62

This table appeared in the Educational Number of *The Journal of the American Medical Association,* Aug. 26, 1933, page 690.

The necropsy percentage has been reported for each of the hospitals above referred to but the information on individual hospitals is not at present available for publication. The rates for several hundred hospitals are being prepared for publication in the Journal within a few months.

Hospitals approved for internships and residencies are not required to show annual increase, but they are required to maintain a necropsy percentage of fifteen.

A comparative study of the laws of states and territories of the United States relative to postmortem examinations may be found in "A Survey of the Law Concerning Dead Human Bodies," written by George H. Weinmann and published as Bulletin 73 by the National Research Council, Washington, D. C., in 1929. The price is about $2.

Another publication concerning this subject is "The Law of the Dead Human Body" by Dr. Oscar T. Schultz, which appeared in the *Archives of Pathology* (June, 1930, vol. 9, p. 1220).

The attending physician can and should use his influence to procure postmortem examinations. The following articles deal with this aspect of the situation:

Boyd, D. A. Jr., and Gordon, Burges: Winning Consent for Autopsies by Tact and Consideration, *Mod. Hosp.*, June 1931, vol. 36, p. 87.

Hoffman, W. J.: Postmortem Examinations: Methods of Obtaining Permission, *J. A. M. A.*, Oct. 14, 1933, vol. 101, p. 1199.

Lynch, K. M.: Better Autopsies and More of Them, *J. A. M. A.*, Aug. 20, 1927, vol. 89, p. 576.

Mills, R. G.: Means of Securing Postmortem Examinations, *Bull. Am. Coll. Surgeons*, December, 1930, vol. 14, p. 40.

Smith, F. C.: The Autopsy in Private Practice, *J. A. M. A.*, Aug. 20, 1927, vol. 89, p. 575.

In order to procure the facts concerning the number of persons who have died annually in each state and territory of the United States of diseases for which no cures have been found and on whom no postmortem examinations have taken place because of refusal of permission by the next of kin, the only exact procedure would be, first, to list the diseases to be included in such a list, then to get the death reports from the various states and finally to follow the records back to the hospital or the attending physician to find out whether or not a postmortem examination was done and if not why not. This is a task which would be colossally expensive. A much better way would be to study the records of perhaps ten or a dozen outstanding hospitals with a general, varied service. This would give only a sampling but it would present a general idea as to the situation, although it would not be a true picture of conditions in small hospitals and in those which are less highly organized.

In response to an inquiry, several pathologists and physiologists have stated that they do not know of any list of famous persons who have willed their bodies to science. Dr. Edward S. Cope is said to have willed his body, and Dr. Harris H. Wilder gave his brain for scientific study. It has been pointed out that such bequests would be illegal if any objections were encountered from the next of kin. One pathologist says:

I am not sure just how much benefit in general is obtainable through the willing of one's body to science. Cases of which I have heard have been accompanied by a great deal of newspaper notoriety.

As a rule, the only thing that the medical profession desires is permission for an autopsy. It seems to me that it is here that the men of prominence can be most useful. It is very helpful to have the public know that people of this class permit autopsies on their friends and relatives. There are, of course, thousands of examples of this sort of thing, and the publicity obtained is all to the good.

The first postmortem examination was performed long before the founding of America. Among the prominent early physicians was Mondino de'Luzzi who performed autopsies on two female cadavers in January and March, 1315, to ascertain whether a woman who had given birth to children had a larger uterus than one who had not. The Florentine, Antoni Benivieni, whose birth date is unknown but who died in 1502, also was notable for his postmortem reports, although he still clung to his belief in the theories of Galen which were based on dissections of animals and philosophic deductions therefrom, many of which were wrong. It was the Flemish anatomist, Andreas Vesalius, who was born in 1514 and died in 1564, who first made anatomy a comprehensive science and published anatomic studies which bear his name. From that time, the postmortem examination has steadily though slowly grown in favor. It is still a long way from the popularity which it deserves in the interest of the health of future patients.

The American Medical Association has endeavored to emphasize the importance of postmortem examinations through HYGEIA. The following articles on this subject have been published in HYGEIA:

Bogen, Emil: I Want a Postmortem Examination Made When I Die (December 1926, vol. 4, p. 696).

Schultz, O. T.: Tales That Dead Men Tell (December 1929, vol. 7, p. 1201); Our Antiquated Coroner System (October 1930, vol. 8, p. 908).

Warwick, Margaret: Why Should Postmortem Examinations Be Done? (July 1933, vol. 11, p. 606).

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Eugenics

To the Editor:—Will you please tell me whether or not a lack of fertility appears in particular in the fourth generation or in general in any generation of the descendants of crossbred Negroes and white persons? Is the American Eugenics Society a scientific organization for the pursuit of scientific investigation?

D. E. L., Illinois.

Answer.—The claim has often been made that mulattos are relatively infertile as compared with white persons and pure Negroes. A study of Negro-white crosses has not furnished any grounds for this opinion. A thorough investigation of Boehr-Hottentot hybrids in South Africa by Eugene Fischer has shown that fertility in these mulattos continued to be high for several generations. In the United States it is difficult to secure reliable genealogic data through more than two generations of mulatto families, but the evidence available does not point to any loss of natural fertility.

The American Eugenics Society is a scientific organization which includes in its membership many of America's most prominent biologists.

Acidity

To the Editor:—Information is desired on an acid condition of the body.

G. H. H., Illinois.

Answer.—In discussing the so-called acid condition of the body, attention should be called to the fact that the phrase "acid condition" commonly employed by nonmedical persons has been greatly misused and overworked. There is no truly acid condition of the human body during life. The body is always alkaline, although certain of its secretions as, for example, the urine, the perspiration and the secretions of the stomach are acid. There is a condition known as acidosis which consists not in actual acidity but in reduced alkalinity, or, in other words, an acid tendency without true acidity.

Acidosis is frequently suspected by patients themselves when it does not actually exist. It occurs in starvation, in certain acute feverish conditions, especially among children, in diabetes and in certain more or less severe disturbances of metabolism occurring in connection with severe chronic diseases. The so-called acid condition with which comparatively healthy persons delude themselves should ordinarily be ignored.

"For there was never yet philosopher That could endure the toothache patiently"

(*Much Ado About Nothing*—
Act V, Sc. I, L. 35)

GO BACK as far as you like in art and literature and you will find recorded the dread of toothache. For when decay breaks through the dental enamel, attacks the softer dentin, and reaches the pulp, the result is a pain as intense as any known.

Through the years only one way has been found to prevent toothache. But, fortunately, the method is simple—inexpensive. Stop tooth decay.

If you see your dentist periodically he can keep you free from toothache. He will examine your teeth regularly and thoroughly. Once a year he will make a *Bite-Wing* x-ray examination. The x-rays will disclose every cavity, even those on the hidden tooth surfaces that cannot be seen or explored with examining instruments. No decay will be missed.

Small fillings can then be made. Teeth will be saved, health will be better, and natural appearance maintained. Today you need not suffer the pain of toothache.

• *Mail the coupon and we shall gladly send you free the pamphlet, "How to Prevent Toothache."*

Have an Annual Health and X-ray Examination

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Please send me your free pamphlet, "How to Prevent Toothache."

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Appendicitis Warnings

"I can give it to you, of course. But if I were you I wouldn't take anything for it without the advice of a doctor. Those abdominal pains may mean appendicitis."

THE symptoms of appendicitis vary. Almost always, continued pain and tenderness in the abdomen are the first indications of an acutely inflamed appendix. Of course, not all intestinal aches are caused by appendicitis, but anyone who has continued, unrelieved abdominal pain, especially if it is accompanied by nausea or vomiting, needs competent medical attention at the earliest possible moment and not self-medication.

If it is appendicitis the use of a laxative is dangerous. It stimulates violent intestinal action and may spread the inflammation, cause the appendix to rupture, or induce peritonitis. Moreover, the sufferer should not be given food, drugs or medicine of any kind unless prescribed by the attending physician.

Send for your doctor immediately if there is any suspicion of appendicitis. In making his diagnosis he may find it necessary to make one or more blood cell counts or to observe your temperature for a few hours, keeping you quietly in bed under close observation.

Your doctor may decide that the attack does not clearly denote appendicitis and can be relieved without an operation. But if it is a clear case of acute appendicitis, he will probably recommend an operation within the shortest possible time.

Performed by an expert surgeon, early in the attack, before the appendix has burst or peritonitis has begun, an operation for acute appendicitis should cause little concern.

METROPOLITAN LIFE INSURANCE COMPANY
FREDERICK H. ECKER, PRESIDENT ONE MADISON AVE., NEW YORK, N.Y.
© 1934 M. L. I. CO.

Do You Know—

1. How to entertain a convalescent child? *See page 1002.*
2. Which tooth surfaces should be brushed first in the brushing routine? *See page 1009.*
3. That "hot dogs" accepted by the Committee on Foods wear paper collars? *See page 1021.*
4. What part nurses play in the works of Dickens? *See page 998.*
5. What diet is proper for the arthritic patient? *See page 975.*
6. Why parents should not discuss the horrors of the dental chair in the presence of the child? *See page 978.*
7. What the overweight child should eat for breakfast, lunch and dinner? *See page 1015.*
8. Why vegetables should be steamed rather than boiled? *See page 1004.*
9. What exercise the expectant mother should take? *See page 981.*
10. Why, in spite of his advertisements, the quack dentist is more expensive than the ethical dentist? *See page 1026.*
11. How to make pie for a diabetic patient? *See page 983.*
12. How to care for the skin when working with poisons that may be absorbed through the skin? *See page 995.*
13. Why the average child is nonexistent? *See page 988.*
14. The two purposes that glasses may serve for optically imperfect eyes? *See page 1017.*
15. How the diseases of its rulers affected the history of France during the Middle Ages? *See page 970.*
16. How the body louse transmits disease? *See page 992.*
17. Why the discovery of the anesthetic action of cocaine was especially significant in the field of the eye, nose and throat? *See page 973.*

REMEDIES FOR SILICOSIS PROBLEM SUGGESTED

Two definite steps for the reduction of the silicosis problem in this country are suggested by Prof. Philip Drinker of the Harvard School of Public Health. They are (1) medical examinations of new employees, with routine examinations of all persons exposed to dangerous dust concentrations, and (2) reduction to what are considered safe limits of dust concentrations breathed by workers.

Dustiness should be controlled by local exhaust fans and dust collecting equipment to do away with protective devices, such as respirators or positive pressure helmets, which are emergency equipment only and are intended for such occupations as abrasive blasting, paint and enamel spraying, porcelain manufacture, stone cutting and sand grinding.

Occasional statements to the effect that respirators filter out only the larger particles and let the smaller more harmful particles of dust pass through were discounted by Professor Drinker. He cited the fact that the dust catching efficiency of several makes of respirators exceeds 90 per cent on silica dust with particles less than 2 microns. A careful measurement of the size of dust particles entering and leaving respirators shows a slight but unimportant reduction in the average size of the particles.

ROCKY MOUNTAIN SPOTTED FEVER INTERSECTIONAL

Because of the increasing distribution of Rocky Mountain spotted fever, knowledge of the vaccine which offers protection against the disease as well as of the problems of recognition and treatment are important in all sections of the country.

Although the value of the vaccine has been demonstrated as a complete protection against the disease in its milder forms and as a partial protection against the more virulent varieties, its use is somewhat limited. Because of the wide distribution of the disease it is not practical to vaccinate against the disease except in highly infested areas and in cases in which the person, because of his occupation, is constantly exposed to the bite of the wood tick, the common vector.

The dog tick is the vector in the areas newly found to be subject to the disease, reports *The Journal of the American Medical Association.* These areas are the eastern and midwestern states, the west coast and to some extent the Rocky Mountain section.

WHAT "HIGHER VITAMIN RETENTION" means for your baby

And why, in most home-cooked strained vegetables the vitamin content retained is lower than in Heinz Strained Foods!

Heinz Strained Foods include 8 varieties—Vegetable Soup, Peas, Green Beans, Spinach, Tomatoes, Carrots, Beets and Prunes.

NATURALLY, the more fully the vitamin content of vegetables is retained in cooking and straining, the more vital nourishment your baby receives.

That is why many mothers have adopted Heinz Strained Foods, why many physicians prescribe them. Not only do they eliminate the toil of home preparation, but they actually assure higher vitamin content than do most home-cooked vegetables.

Heinz uses fresher-than-market vegetables, flawless and carefully grown. Harvested at the point of perfection, they are rushed to Heinz kitchens for immediate preparation. They are cooked in closed kettles by means of dry steam, strained without exposure to vitamin-destroying air. Then *vacuum-packed* in enamel-lined tins.

Try three tins of Heinz Strained Foods. Notice how readily your baby takes to them, because of their fresh color and flavor. Do away with the tedious job of preparation. And *know* that your baby is getting an abundant quota, month in and month out, of precious vitamins and minerals.

New Authentic Facts on Infant Diet

This new 60-page book charts the way to the ideal diet for *your* baby. It helps you to determine baby's nutritional needs, and shows how to build up resistance against infant ailments. This new book has been passed by the Committee on Foods, American Medical Association. To get your copy, mail the coupon, with labels from 3 Heinz Strained Foods tins, or with 10 cents.

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His Address_____

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FACTS ABOUT THE CLIMATE

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GUILLOTINE NOT USED AS ORIGINALLY INTENDED

"Dr. Guillotin's Idea," according to Dr. James Hendrie Lloyd in *The Annals of Medical History,* was not consistent with the popular notion concerning the guillotine, the machine which was used during the French Revolution to behead prisoners. For Dr. Guillotin was really a philanthropist, intent on taking his part in a movement for the benefit of mankind. When he took his place in the National Assembly at Versailles, his first thought was to promote hygiene.

For some time Dr. Guillotin considered the problem of capital punishment. At the time, he realized that it was not democratic. In the old régime a discrimination had been made between the aristocrats and the lower orders. The aristocrats had been beheaded with the sword, but the common people were hanged. In his meditation he hit on an idea for a machine for cutting off heads. In addressing the assembly, he assured the members that it would "take off a head in a twinkling, and the victim would feel nothing but a sense of refreshing coolness." The idea of the machine was not original with him, for similar devices had been used in other countries. None had been used in France, however.

The machine was made and tested on sheep under the direction of Dr. Antoine Louis, who was surgeon and bleeder to the king. It is said that when Louis XVI observed that the blade was set horizontally, he advised that it should be set obliquely, and thus it was set as though by his own hand, when in less than a year it cut off the king's head.

No one deplored more bitterly than Dr. Guillotin the fatal use that had been made of his invention. The unhappy man is said to have made vain attempts during the later years of his life to dissociate his name from the bloody ax.

It was at first called the Louison, or Louisette after Dr. Louis, much to his distress. But already a popular song had appeared in a journal called *Les Actes des Apôtres* in which the permanent name was given to the Guillotine, the feminine form of Dr. Guillotin's name, as if it were his daughter.

Guillotin did not take any part in the atrocities of Robespierre, Danton and the Revolutionary Tribunal; he lived retired and obscure in Paris, esteemed by his friends and overlooked by the Terror. The story that he was a victim of his own machine is not true; he died in his bed in 1814.

Health pamphlets

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SENSE OF SMELL HAS NOT BEEN EDUCATED IN MAN

The use of perfumes and perfumed unguents is as old as the human race. How has it come about, then, that of our five special senses of sight, hearing, taste, touch and smell, the cultivation of smell has been not only neglected quite generally, but scorned and more or less despised by most of the male sex as a frivolous and effeminate pursuit?

Dr. Marston T. Bogert, writing in *The Scientific Monthly*, explains that the two major classes of perfume raw materials are the natural and the synthetic. The natural perfumes are either animal or vegetable.

The animal origins are as follows: the ambergris from the intestinal tract of the sperm whale; the musk from the preputial sac or "pod" of the diminutive male musk deer; the civet from the anal gland of the civet cat; the castor, which consists of the dried preputial follicles and their secretion from both male and female beaver.

Most natural perfumes come from the vegetable kingdom, where they occur as the volatile or essential oils, as the gum resins and balsams. The flowers are not always the sources of these odorous plant constituents. They may be in the wood, as in sandal and cedar; the bark, as in cassia and cinnamon; the leaves, as in patchouli, bay and thyme; the fruit, as lemon and bergamot; the seeds, as almond and caraway; or the roots, as orris and sassafras.

From the appropriate part of the plant, the odorous constituents are obtained by direct pressure, by distillation with steam or extraction with suitable solvents or absorption by thin layers of fat or oil, from which material the perfume is subsequently extracted by alcohol.

It takes approximately two tons of roses to produce one pound of "attar" of roses.

Realism stalks in the path of romanticism when one learns that investigation has shown that the perfume of orange blossoms and some acacia flowers consists of the same substances as can be found in rubber, and the plants differ only in architectural arrangement.

Dr. Bogert suggests that suitable perfumes incorporated in anesthetics and hypnotics would diminish the number of persons who have an antipathy for these chemicals after undergoing an operation. It might even influence pleasurably their dreams in that dim realm between consciousness and unconsciousness.

"It is almost unbelievable ...the way my children have thrived since drinking milk this delicious way!"

says Mrs. N. C. O'Connor, 134 Harmon Drive, Larchmont, New York

"MY TWIN GIRLS were never as husky as other children in the neighborhood. But one day I read somewhere about Cocomalt mixed with milk—how children love to drink it and how good it is for them. I gave some to Consuello and Gloria for breakfast one morning, and they kept asking me for more all day. So I began giving it to them regularly instead of plain milk, and the way they have thrived since is almost unbelievable!"

Cocomalt mixed with milk produces a food-drink of exceptional nutritive value. It gives the child *extra* proteins, *extra* carbohydrates, *extra* minerals (food calcium and food phosphorus). Prepared according to the simple label directions, Cocomalt adds 70% more food-energy to milk.

Cocomalt is a rich source of Sunshine Vitamin D. It has been added by special process, under license of the Wisconsin University Alumni Research Foundation.

Cocomalt comes in powder form only, easy to mix with milk—delicious HOT or COLD. Sold at grocery and good drug stores in ½-lb., 1-lb. and 5-lb. air-tight cans.

Special trial offer: For a trial-size can of Cocomalt, send 10c (to cover cost of packing and mailing) to R. B. Davis Co., Dept. 9-M, Hoboken, N. J.

Cocomalt is accepted by the Committee on Foods of the American Medical Association. Prepared by an exclusive process under scientific control, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D. (From irradiated ergosterol.)

ACCEPTED AMERICAN MEDICAL ASSN

Cocomalt

Prepared as directed, adds 70% more food-energy to milk

ONLY BEST LIVER EXTRACT IMPORTANT IN ANEMIA

The term "pernicious" as applied to a condition such as anemia denotes one of grave import; it implies an injurious or destructive quality, the Iowa state department of health advises. Pernicious anemia has long been regarded as a highly fatal disease, but fortunately medical science has within recent years discovered a way in which the blood-forming tissues are stimulated to renew their function and bring about marked improvement.

Liver extract has been found to be of great benefit to patients with pernicious anemia, but this preparation should not be taken without a doctor's prescription after he has had an opportunity clearly to establish the nature of the illness. There are several kinds of anemia, which is a condition caused by lack of blood. Pernicious anemia is a severe type of disorder, a disturbance of the blood-forming organs. Like diabetes, it is a deficiency disease. Liver extract may be worthless in some forms of anemia besides causing needless expense. On the other hand, patients with pernicious anemia should continue to use only a liver preparation of high quality and not an inferior substitute. "Quality," it has been said, "has no substitute," and this statement has deep meaning in treating pernicious anemia.

TEN HEALTH COMMANDMENTS

1. Help yourself to health. Form habits that will fight for you, not against you.

2. Do not expect to have good health without effort. Health must be earned.

3. Adopt the policy that an ounce of prevention is worth a pound of cure.

4. Make food your servant, not your master. Eat for strength.

5. Breathe deeply, for air is life's first requisite and Nature's best tonic.

6. Exercise for health, not for strength. Exercise sends clean blood to the brain.

7. Seek sunshine, for sunshine and disease are always enemies.

8. Water—use plentifully daily; warm for cleanliness, cold for tonic.

9. Keep a clear conscience, for true rest is mental as well as physical.

10. Work planfully, read much, and play often. Play keeps old age at bay.

—*Food Facts.*

Is Your Baby Troubled with I-C
INDIGESTION CONSTIPATION

Exercise Often Helps!

The TEETERBABE JUMPER SEAT

Write for Circular Giving Complete Facts

Babies need exercise the same as grown-ups to prevent Indigestion and Constipation troubles. In a Teeterbabe, baby can exercise to its heart's content, developing its muscles and aiding its little organs to function. Physicians endorse it highly for this reason—also because it does not suspend baby by the crotch.

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For the expectant and nursing mother during all that period when nature is making increased demands for the minerals calcium and phosphorus, these demands can be supplied by an adequate diet plus ultraviolet sunbaths. "A tooth for every child" should not be true today.

And what is the cost of this health insurance? The cost of its operation is no greater than that of your electric toaster.

Hanovia Lamps are simple to operate and have been extensively used for nearly 30 years. In case of sickness consult your physician. He is the only one qualified to advise you.

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BLUE LIGHT RAYS SPEED SPOILAGE OF FOODS

Rays of light at the blue end of the spectrum are responsible for much of that type of food spoilage commonly termed rancidity, the U. S. Department of Agriculture reports. Chlorophyl green wrappers have been shown to retard the development of this kind of spoilage almost as well as does the total exclusion of light.

The original tests were made with the object of finding some kind of container or wrapper that would greatly retard or entirely prevent the development of rancidity in oil-bearing foods. Chlorophyl green and black showed a superiority in this respect, but although black excludes all light, it is not desirable for commercial use; chlorophyl green gives almost as good results.

Following is a list of the colors used in the test in the order of their desirability for protecting foods: black, chlorophyl green, medium red, orange red, red, dark yellow, tinted yellow and blue. At the end of the test, however, rancidity had developed with all wrappers except the chlorophyl green and black. Aluminum foil was also found efficient in protecting both animal and vegetable oils and fats from rancidity, and tin foil gave equally good results but was more expensive. Foil has the additional advantages of excluding moisture, when properly sealed, as well as light; it also reflects light, which means heat, and thus retards temperature changes.

THE SUN AND TEETH

It is strange that prehistoric man should have invoked the sun for help in dental and oral diseases, that medieval man translated the sun into a saint in order to have its intervention when his teeth ached and that the latest remedy in modern therapeutics should be that of artificial sunlight, a writer in *The Journal of the American Dental Association* comments.

At the Royal Dental Hospital, London, patients receive body baths of artificial sunlight to raise their resistance to dental and oral diseases. Thus, the whirligig of time brings in its revenges, and King Sol comes into his own again.

A modern small boy with great attention watching the stethoscope being used on a member of his family: "What station did you get, Doctor?"

SEX EDUCATION

New Booklets
by THURMAN B. RICE, M.D.

Modern without sacrificing fundamentals.
Frank, but not sensational. Illustrated.

For Boys and Girls of Ten

How life comes from life—How flowers are born—Male and female functions in fish, frogs, turtles, birds, calves, colts, kittens and human beings—Simple facts about sex hygiene. **36 pages**

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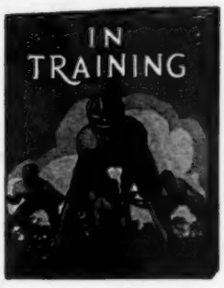

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AMERICAN MEDICAL ASSOCIATION
537 North Dearborn Street Chicago

UNEMPLOYED WOMAN IS INCLINED TO MAGNIFY PHYSICAL ILLS

The unattached unemployed white collar woman would, in many cases, rather starve than engage in work uncongenial to her.

This woman is a valuable worker when given employment which uses her abilities to the full and gives her emotional satisfaction, but she becomes an office malcontent when she has work which does not make adequate demands on her intelligence and energy.

She will transfer her energies in idleness or in uncongenial work to brooding over and exaggerating her own physical ills to a point where she renders herself practically unemployable.

The foregoing discoveries are among those included in the report of the psychiatric consulting service of the women's division of the Emergency Work Bureau.

It was to study the psychologic condition of such women, to help busy workers in the placement bureau appreciate the individual nature of each case, and to shift the primary emphasis from the job back to the applicant that the psychiatric service was formed in 1933.

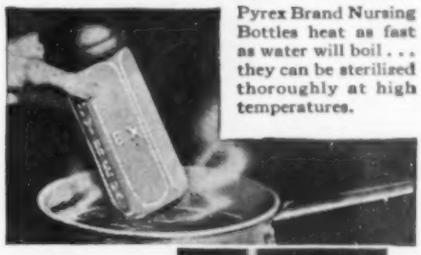
It is found that teeth, eyes and feet show the first lack of care among unemployed women and that ailments of this nature, as well as minor digestive troubles, are frequently dwelt on and almost cherished as furnishing an excuse for being jobless and for not making the depressing rounds in the search of work.

"In regard to the whole subject of unemployment and work relief," the report declares, "it is clear that created work has been generally accepted as a practical necessity until improved business conditions permit a return to regular work. If, for various reasons, such reemployment cannot be achieved, created work at least provides a period during which the individual may make his adjustment to the inevitable change, either in his type of employment or in his economic and social status in the community. When projects are well planned and properly administered, there is little doubt that work relief plays a part in the prevention of serious loss of health and morale."

They who have a good constitution of body can bear heat and cold, and so they who have a right constitution of soul can meet anger, grief, immoderate joy and other passions.—*Epictetus.*

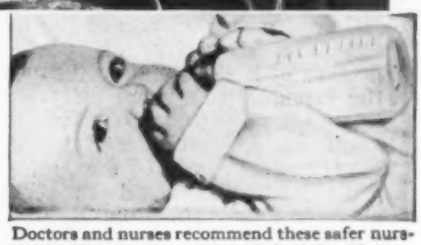
Mothers!

These bottles resist breakage from *Heat* or *Cold*



Pyrex Brand Nursing Bottles heat as fast as water will boil . . . they can be sterilized thoroughly at high temperatures.

They go instantly from boiling water to the cold tap—and resist breakage, avoiding the danger of delayed feedings.



Doctors and nurses recommend these safer nursing bottles to protect your baby's health.

Six-sided on the outside, rounded on the inside, with a broad, level base and clearly marked ounces. Two sizes—8-oz., with narrow neck or wide mouth, 25¢; 4-oz., with narrow neck, 15¢. So resistant to breakage that six bottles generally last for entire nursing period.

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U. S. Pat. 1,702,922 —Invented by Mme. Poix to create the stylish upward contour; to relieve pain and remove cause of many bust troubles; also for pre-natal and nursing periods.

Sizes 30 to 44
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THE MYTH OF THE AVERAGE CHILD

(Continued from page 991)

the kidneys, lose half of their weight immediately after birth, remain stationary until the fifth year and do not regain their birth weight until puberty. The uterus grows rapidly in the last months of antenatal life, loses considerably during the first weeks after birth and does not commence to grow again until the two years before the onset of menstruation. Such marked variation in growth patterns of ductless glands to an extent of as high as five-fold differences for each unit of body weight certainly discredit bodily measurements as determining criteria of the degree of development of the child.

The only time in life when measurement alone embodies the tempo and trend of growth is during the prenatal period. The remarkable uniformity of prenatal growth has made possible the valuable correlation of measurements of the fetus, but the diversity of postnatal growth of the organs and tissues of the human body necessarily limits the final applicability of measurement as a developmental index. Measurements of the massive growth of the child reveal the static phase of growth energy, which represents the mass that the child has accumulated, or the size he has attained for his age. The form of the child must necessarily be correlated with its function, and that phase is the dynamic factor of growth. The degree of difference in the child's tissues and organs determines his body build, or habitus. In the past, it was left to fortune tellers and phrenologists to associate the type of behavior with the shape of the body.

A child is considered normal physically when he does not reveal any pathologic disturbances that interfere with his functional integrity or with his pattern of growth development. It is a negative definition expressed in terms of the abnormal because we have more knowledge of disease than of well being. Clinically, it is practical to classify children in two extreme groups that define a wide range of norm for any one child. No single standard measured in terms of organs or tissues or their aggregates can ever define an individual child at any age. This is a necessary consequence of the fact that growth embraces many dimensions and is never one dimensional. For practical purposes, therefore, it is well to evaluate a child in terms of two extreme guiding posts which necessarily define the wide range of form and function observed at any age. The one is dynamic and thin, and the other is static and fat. The terminology necessarily is functional because it is more obvious, even dramatic, in a study of types in children.

In comparison with infants of the same age, the child of the dynamic type tends to be thin and below the average in weight; but he has a weight proportionate to his length and may be shorter or longer than the average height. His skin is bright, clear, soft and delicate; his activity is striking and his musculature is well toned. He is intelligent, restless, impulsive, fidgety and emotional. He develops early and rests less than other children. His activity demands more food than is required by others in order to make the same degree of progress. His temperature is readily elevated by slight causes. He is temperamental and always decided in his likes and dislikes. He has a tendency toward gastro-intestinal disturbances, rheumatic and heart manifestations and those of hyperthyroidism. One of his parents is usually slender and muscular, and both may have these characteristics.

The child of the static type tends to be fat. His measurements are usually above the average for both age and length. He gains well on low caloric intakes. He is dull, pale and languid; his skin is coarse, and the coloring is fair; his musculature is atonic and flabby. He is calm and placid, slow in movement and in response, lacking in energy and interest, susceptible to colds, infections and anemia. One of his parents tends to adiposity, and both may do so.

Both of these types, hypertonic and hypotonic are functionally normal. Each follows the growth course of the potential pattern inherited from the parents. Each type may well be considered healthy in spite of the marked contrast in behavior. Each type thrives as long as it is provided in both quality and quantity with the nutrients indispensable for superior growth, and particularly so if the medical and hygienic care prevents alimentary and respiratory disturbances. Each reveals glandular disturbance, so that no change in body build can ever be attained by the continuous administrations of any glandular products. The body build persists throughout all the developmental stages of childhood into maturity. The sooner parents appreciate the type of body build of their child, the less disturbing to them will be the child's developmental course, particularly when compared with their friends' children or with friendless tables. These two types are normal, and yet they are so different in bony framework, in chest measurements and in musculature that all possible procedures could not distort them physically to conform to arbitrary standards, or norms. Not only is it important for the parents to recognize and abide by the existence of types of body habitus in their children, but it is equally indispensable for schools, health stations, hygienic units and even hospital services not to enforce absurd standardization by averages in the manner of molding machines.

The type of body build of a child is already manifest at birth. If the mother has been well throughout pregnancy, the baby's intra-uterine environment has been ideal physically, climatically, nutritionally and bacterially. It is not until the newborn infant begins to be exposed to a more difficult environment that responses characteristic of his body build are observed. Each type of baby, whether he is of the extreme hypertonic forms or of some intermediate pattern, reacts differently to environment. It is a specific manner of reaction of the whole child to any phase of his environment that reveals his constitutional type at this early time.

The old concept that disease is abnormal no longer holds. Illness results when the child is not capable of immediate and complete adjustment to favorable conditions in the environment, whatever they are. The reaction to disease is as much a normal function of the body as is digestion or respiration, and the degree of the child's failure to cope with environmental infection determines his constitutional pattern. Thus, even in the first weeks of life, one may recognize an infant hypersensitive to the air he breathes, to the physical agents, such as heat and cold, to which he is exposed, and to the food he eats as well as the organisms that invade him. It is a hypersensitiveness transmitted according to mendelian laws as a dominant characteristic. The child may be considered to have an allergic constitution. Similarly a nervous constitution can be recognized long before rearing in an intense neurotic environment actually begins. There is also the glandular constitution perceptible from the abnormal adiposity about the breasts, hips and lower portion of the abdomen, particularly in massive new-born infants. Newer knowledge of the child's constitution is revealing more and more the difficulty of distinguishing between

THE MYTH OF THE AVERAGE CHILD

normal and abnormal consequences of an inherited trait.

Children are born free, not equal. They continue to grow in accordance with the body build that characterizes their racial and social groups. Veeder has shown that if they are tall at 2, they will be tall at 20 unless they are altered by environmental changes for better or worse, or checked by severe illness. Although the range of individual constitutional differences is considerable even in the most homogeneous groups, these children will probably have longer legs and trunks and broader shoulders and hips than the average. Whether a child is to be short or tall, thin or fat, muscular or flabby, weak or strong, emotional or placid, handsome or homely, athletic or sedentary depends almost entirely on inherited factors. Medical supervision cannot exceed that of a service station that can never alter the fundamental human mechanism.

Average values of developmental attainments and dimensions are useful first approaches for mere orientation of a child's characteristics, but these figures are the result of such heterogeneous groups of habitus of race and environment that they must never be applied in an absolute sense. Once these values are used for comparison with the individual child, subsequent complete examination of the whole child must necessarily interpret the basis of his superiority or alleged inferiority from the glorified average. A single examination of a child gives a single cross-section of his life pattern. This can never be used for the final evaluation of the child's individualities in growth and development. The child must be compared with his own progress individually in all respects from time to time before apparent deviation from averages can be considered significant.

THE FIRST WHITE LINE

As a constructive campaign to remind the public that there are white lines in the center of highways and that they are there to be observed, the Fresno (Calif.) Chamber of Commerce has started a campaign to discover the identity of the first man to lay such a line as a safety measure. Some of the claims for the introduction of the first white line on a highway go back as far as 1907, and the campaign so far seems to show that many persons in many places had the idea at approximately the same time, according to a report in *Public Safety*.

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A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS

(Continued from page 1025)

covered. It lacks fat and, unless blanketed with suet, will be dry. Hence, it is better to have the cover on the roaster.

Seasonings are added at the beginning of the roasting period, and it is no longer thought that salt draws the flavor out of the meat, rather, salt penetrates the meat and gives it better flavor. Push salt down into the center of the rolled rib roast, rub the inside of the fowl with salt, and in other cases, season the meat sufficiently.

Meat should not be boiled vigorously, for that makes it tough and stringy. Cook a piece of "boiling beef" at simmering temperature unless a pressure cooker is used. Meat cookery is an art subject to certain scientific principles.

The booklets which may be obtained from the publicity departments of the two packers' organizations previously referred to have many worth while suggestions to offer and include complete charts of the various cuts of meats. Since all nutritional claims of these publications have the acceptance of the Committee on Foods, they are particularly valuable to the housewife. In addition to this published matter regarding fresh meat, as produced by the various packers, certain individual companies producing "hot dogs" and canned meats have procured acceptance both for advertising claims and for the products themselves. An accepted beef loaf contains no harmful ingredients and it conforms to the federal definition that "meat loaf is a product consisting of a mixture of comminuted meat with spice and/or with cereals, with or without milk and/or eggs, pressed into the form of a loaf and cooked." An accepted brand is delicious; it contains some pork as well as the beef, and it is canned with gravy.

An accepted lamb stew contains lamb meat, potatoes, carrots, peas and onions, seasoned with salt and pepper. Government inspected lamb is carefully trimmed, cooked tender and again trimmed, and the remaining meat, free from gristle, skin or sinews, is diced. The vegetables are pared by machine, washed, sliced and mixed in definite proportions with the lamb, put into cans, sealed and processed. The manufacturer simply claims that the product is lamb stew for all table uses. He is not like some food manufacturers who used the "patent medicine" type of claims for curing disease. Before the product was accepted by the Committee on Foods, the manufacturer was required to state the precautions taken to assure the soundness and wholesomeness of the food. The caloric value is high.

When rightly made, hash can be as wholesome, clean and thoroughly appetizing as any other food, but few housewives would take all the trouble that the manufacturer of an accepted corned beef hash takes in the selection of ingredients and in the preparation.

Sausage meat is fresh meat or prepared meat, or a mixture of fresh and prepared meat, and is sometimes comminuted. The term "sausage meat" is sometimes applied to bulk sausage containing no meat by-products, according to federal definition. Pork sausage is chopped or ground pork, with or without one or more of the following: herbs, spice, common salt, sodium nitrite, sodium nitrate, potassium nitrate, sugar, a sirup, water and vinegar. It may be fresh, dried, smoked or cooked. It should be explained that these chemicals used in a similar way to the common salt are not injurious, when properly proportioned in the recipe for manufacture.

A brand of smoked, cooked sausage, containing government inspected pork and beef, salt, corn syrup, mixed ground spices and other ingredients as listed in the definition, has been accepted by the Committee on Foods. The pork trimmings and the beef, minus the sinews, are cured and ground, mixed with seasonings, stuffed into casings and linked, cooled, washed and then smoked with clean, hardwood sawdust smoke, cooked, washed, dried, packed in cartons, and delivered under refrigeration.

A delicious brand of accepted liver sausage consists of government inspected ground pork livers and muscle, ground pork skin, powdered skim milk, onions, salt, pepper, mace and harmless coloring. The mixture is stuffed into casings of 30 inch lengths, which are tied off and cooked in water until the internal temperature of the sausages reaches well above the temperature required to kill Trichinae, parasites which cause in man the sometimes fatal disease known as trichinosis. After being chilled, the liver sausage is smoked and packed. The manufacture is under government inspection.

The accepted wieners are sausages prepared from cured pork and beef, spiced, smoked and cooked. The product is inspected by the U. S. Department of Agriculture, which regularly tests the sausage for moisture content, nitrites and other possible adulterants. A regulation of the U. S. Bureau of Animal Industry is that the finished product shall in no case contain more than 10 per cent additional moisture above the moisture content of the raw material. The finished smoked wieners may be eaten cold or heated, but should not be boiled. The cooking done in the manufacturing process is sufficient to kill Trichinae that may be present. The wieners are banded with yellow paper "collars" and packed in cartons by girls who disinfect their hands every half hour. The statements here apply only to the brand that is accepted and do not apply to all wieners on the market. Manufacturers of sausage everywhere agree that one of the handicaps to individual companies and to the entire industry is the fact that the quality of some of the products sold is such as to discourage consumption.

Meat and meat products can be extremely dangerous if they are not fresh and clean and have not been properly refrigerated according to their requirements. While meat ordinarily reaches the home in a wholesome condition, it must also receive proper care there. The assurance of wholesomeness provided by the Seal of Acceptance of the Committee on Foods may be lost unless the accepted food is properly handled after it leaves the factory, during transit, in the retail store and by the housewife after purchase. Odor is the surest criterion for judging the freshness of meat. However, contamination is not necessarily detected by odor. If there is any doubt, heat the meat, and note the first odor given off. Hamburg spoils quickly because of the large amount of surface exposed to the air. If there is any question about whether or not it is good, discard it, but do not feed it to the dog.

Meat is an important part of the normal diet and should be given careful consideration in meal planning, preparation, service and enjoyment.

[NOTE. — The photographic illustrations used in this article are reproduced through the courtesy of Armour & Co. and Wilson & Co. In the December HYGEIA, Mrs. McCray will discuss sweets, sugars and syrups. Lists of the accepted foods discussed each month will be sent on receipt of 6 cents in stamps.]

Nutrition values are as easily found in canned as among shipped vegetables, and in view of the high standard to which modern canning processes have been carried, low costs should assure to every child his proper share of vegetables.

AMBROSE O'PSHAW, DETECTIVE

(Continued from page 1033)

coffee is better because it is hot. So he told me to give the boy coffee instead of milk, all last week, so that he might save 2 cents every meal."

"I'm quite sure he was mistaken," Ambrose said, rising. "Thank you for a pleasant chat. I must go home now, but you may tell Mr. Grabpenny that I shall return after supper for a talk with him. Good day!"

After he had reached his own house, Mr. O'Pshaw worked at his desk for some time. At last he folded a piece of white paper neatly, tucked it into his pocket, and hurried about the preparation of his simple supper of bread and milk. The robin was busy on the grass again and Ambrose talked to it as he sat on the steps and ate.

"You are a jolly companion," he told the saucy bird. "I may not admire your choice of food, but I must admit that your manners at table are excellent. Never a frown or a grumpy word from you!"

The robin cocked a wise eye at him and daintily pulled another fat worm from the soil.

When Ambrose reached the Grabpenny house later that evening, he found Mr. Grabpenny figuring with a pencil on yellow paper and making row after row of dollar signs.

"Did you discover who broke the windows?" he asked, without taking time to bid Ambrose good evening. "I hope you did, for I mean to collect the damages for them tomorrow."

"Yes, I know who broke the windows," Ambrose said. "All I had to do was find the thing that could spoil a boy's aim, and the problem was solved. While I was investigating, I had an interesting little chat with your housekeeper about the cost of various drinks."

"Well, what has that to do with broken windows?"

"Hmm! There might be many answers to that question. But in regard to our chat; Mrs. Humber told me you had computed the cost of a cup of coffee. I did a little figuring, and I find my answers are quite different from yours."

Since money was being discussed, Mr. Grabpenny listened closely.

"Just how much do they differ?" he asked.

Ambrose drew the white paper from his pocket and gave it to Mr. Grabpenny who unfolded it and went to the window to read it. Mr. Grabpenny smoothed out the paper, carefully adjusted his spectacles and then, as it was getting dusk and as he was much too miserly to light the lamps as long as there was a ray of daylight left, he raised the window shade a bit higher and peered at the paper. This is what he saw:

COFFEE BILL

To Robin Grabpenny	Time One Week
Coffee, 3 cups daily for 5 days, at 2c.	$0.30
1 nervous boy .....3 broken windows	
3 broken windows at $1.50	4.50
1 detective's fee	1.12
Total cost in cash	$5.92
Other costs that cannot be measured	$?.??

Mr. Grabpenny gasped and read the bill again. He looked angry and then he looked thoughtful. Hoping he would ask what the "other costs" might be, Ambrose watched him eagerly. But Mr. Grabpenny did not ask. He put his hand in his pocket and drew out several coins, which he dropped into the detective's hand without bothering to count them. Then he drew out a bank note. He fumbled among the papers in his desk until he found a dairyman's bill. He folded the bank note snugly in the bill, called Granny Humber from the kitchen and put it into her hands.

(To be continued)

I'D GIVE THE WORLD

"I'd give the world to be well!" Perhaps it is the most common expression, spoken or unspoken, heard around a sanatorium. I'd give the world to be well! But did you ever notice how few persons to whom this grandiose expression comes so easily are really ready to give anything that they could give which would actually help them regain their health? They act as though they had done all that should be required of them when they came to the sanatorium and put themselves in the doctor's hands. After that they take the attitude that it is up to the doctor. They'd "give the world." Oh yes, because you know it really isn't theirs to give and nobody would require it of them. But the cigarets, the stolen visit to the patient across the hall, the training of oneself to eat foods which one does not particularly care for, the dozen and one little things that crop up each day which make all the difference between intensive and indifferent cure-chasing. It does not occur to the average patient that these are the only parts of "the world" that are now his to give to be well; at least they are the only parts that can help ferry him back to health.

—*SoCaSan Piper.*

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SCHOOL AND HEALTH

(Continued from page 1037)

Much case study material is used. There are true-false tests furnished for teachers to use in checking on each chapter, and there are other suggestions to insure the book being used intelligently. Such a course as is offered by Professor Pressey should make the student keenly conscious of many of the problems of children and should suggest to the teacher ways in which she may help her pupils adjust themselves to their world.

The third chapter in the book, "Problems of Health," is most illuminating. It not only deals with the direct effects of ill health on the physical body but points out through many carefully chosen case studies the result of ill health on the development of a wholesome personality. Thus a deaf child may not only suffer physically from some condition in the ear, but he is also liable to be maladjusted. He tends to shun games for which reasonably normal hearing is necessary and does not progress in school at a normal rate. He tends to withdraw within himself, makes no effort to adjust himself to his world, projects the blame for his inadequacies on others and so becomes a complaining individual. If every teacher could get the point of view offered in this remarkable chapter, education would be revolutionized.

If we could live up to the stimulating suggestions offered in this book, we would further the happiness of children in a practical way.

HERE IS a dramatization of emergency situations that is interesting from beginning to end. In "Miss Gay's Adventures In First Aid," [2] Mrs. Hall is the average nice woman who is devoted to her first baby, Billee, who is 8 months old. He gets into various difficulties. First of all, Little Billee gets a button in his throat and seems to his frantic mother to be choking to death. She does not know what to do. In this crucial situation, Miss Gay, a trained nurse, enters on the scene and gives first aid treatment. Little Billee recovers, and Miss Gay in response to the many questions of Mrs. Hall not only explains why she did certain things but also suggests many preventive measures for the future. There are four playlets in the book. Stephen J. Vorhees adds to the interest of the book with a number of thumb-nail sketches that appear in the page margins.

2. By Hopkins, Margaret Daly. Pp. 60-61. New York: Nation Press Printing Company, Inc., 75 Varick Street.

TEACHERS who are looking for an appealing health story will appreciate this booklet entitled "Potato Skins and Cabbages and Things." [3] Sir Wilfred Grenfell has told about the lure of Labrador, but his achievements in promoting the health of children are not well known to most teachers and children. Previous to the child welfare work there, the natives led lives that were not conducive to good health. Although there was enough food, it was not of the right kind. Stout tea was the drink of old and young at every meal. Vegetables and greens were considered "hay," and white flour was preferred. There was a strong antipathy to good, nourishing foods. Cows, chickens or goats were seldom seen along the coast. Gardens were not successful. Malnutrition was common. What has been accomplished for the health of these people through health education over a period of ten or fifteen years makes a thrilling story.

ALTHOUGH Michigan and Vermont are in two different sections of the United States, these two bulletins, "Rural Schoolhouses" and "The Rural Schools of Vermont," [4] devoted to the improvement of rural schoolhouses, are similar in their fundamental suggestions on standard schoolhouses. Both deal with such things as schoolhouse construction, seating, water supply, heating and ventilating and the remodeling of buildings. Teachers will find some excellent information in them about blackboard cleaners, dusters and drinking fountains. These bulletins would be valuable to teachers of health education in teacher-training institutions.

TEACHERS in junior high schools and the corresponding grades will be vitally interested in this description of a unit of work on "The Nature of Bacteria." [5] The central objectives of the project are carefully stated, and the approach and procedure are carefully outlined. References are furnished for teachers and pupils. Teachers will find extremely useful the concrete illustrations and simple experiments described.

3. By Badger, Theodore L. Pp. 10. Boston: Grenfell Association, 1933.

4. Pp. 90. Lansing, Mich.: State of Michigan Department of Public Instruction. Bulletin No. 1, 1929. Montpelier, Vt.: State Board of Education of Vermont.

5. By Turner, C. E., and Lytle, Ellen L. Pp. 38. New York: Metropolitan Life Insurance Company, 1933.

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LESS WORRY, MORE REST WILL LOWER HEART DISEASE MORTALITY

One might think, logically, that there is an almost constant rate of heart disease, since the human body does not change from generation to generation and probably is the same today as it was ten thousand years ago.

However, vital statistics do not bear out this logic in fact. According to statistics given in *Pennsylvania's Health*, a quarter century ago but 9 per cent of the total mortality in that state was attributable to heart disease, while today 22 per cent is referable to this cause.

Twenty years ago heart disease occupied third place in the causes of death, with tuberculosis and pneumonia in first and second places. Since 1920, heart disease has been the leading cause of mortality. This tremendous mortality is the concern of the medical profession and public health officialdom, but it should become an individual matter in which every person must inquire into his own personal affairs and his own way of living.

It is thought that much heart disease is aggravated, if not directly caused, by modern high pressure life. It has been demonstrated that persons with good hearts can sustain irreparable damage through overexertion in games and sports; the man with a heart condition is certainly not the one to go in for athletics. Too fast a pace in business life is another killing procedure, and it is usually the tired business man who is the golf addict; it is the combination that sometimes proves too strenuous.

Some persons who know they have serious heart trouble prolong their lives through their own and their doctor's care.

In a second group are those who have symptoms of heart disease and do nothing about it. They continue to demand as much of their bodies as they did when they were young.

The third group is made up of the thousands who are strong and do not have any symptoms of heart trouble; yet they are the ones on whom this disease will feed in the future if they live improperly. Contributing to this premature wearing out of the heart are too great use of stimulants; too much work and worry; hard, strenuous play, and lack of rest and sleep.

Good health is one of the things without which some people may live, but they certainly will not live life at its fullest and best.

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A Surgical elastic supporter with long back of jean; laces at both sides. $3.98

B Surgical elastic supporter; long back of corset sateen; laces in back. $2.98

C Our finest supporter of knit surgical elastic; long back of batiste. $4.95

Postage 8c extra on each.

State present waist measure and period of time; we will send correct size. Please use the order blank coupon below.

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Send supporter for which I enclose $.....

which style?..... waist meas..... period of time.....

Name.....

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Town.....

Maternity Style Book Free. Check here...☐

But, Doctor, What *Is* a WASSERMANN TEST?

It is a test for syphilis, and is probably one of the most valuable and widely employed of all laboratory examinations used as aids in diagnosis and treatment of disease. Its greatest value is in the detection of syphilis during the latent or concealed stage, when even the most skilful physician may fail in detecting it. For this reason many hospitals and clinics now do this test as a matter of routine on all patients.

In next month's HYGEIA Dr. John A. Kolmer tells the fascinating story of the rapid discoveries of the germ that causes syphilis, the Wassermann test for detecting it, and a wonderfully efficient new drug for its treatment. And all this occurred less than thirty years ago, although for centuries syphilis has been known to be an infectious disease!

There is hope in enlightenment on this difficult subject. And Dr. Kolmer's article will give HYGEIA readers valuable information concerning it without the slightest offense.

Also in Next Month's HYGEIA

◆ The Making and Unmaking of a Quack

Under a name not his own, for obvious reasons, a man who took part in the old time "patent medicine racket" reveals the secrets of these "medical pirates" in a story of intense human interest. The first part of this article will appear in the December HYGEIA. Don't miss it!

◆ The Psychology of the Middle Years

Psychological adjustment is as important as physical adjustment in the "dangerous forties." Dr. Smiley Blanton gives helpful advice to the middle aged who realize the need of making this mental adjustment. Although you may not have reached middle age yet—or may have passed it—there is much to interest you in this sensible article.

◆ Speech Problems in Children

Do you think your child's baby talk is "cute?" Does your two-year-old get what he wants without talking? Or does your youngster stutter? Are you afraid your baby is tongue tied or has a cleft palate? Dorothy M. Wolstad asks parents nine questions concerning their children's speech difficulties, and answers them in a way that may be helpful if you have such a problem in your family.

◆ Where are the Meals of Yesterday?

"Gone, thank goodness!" exclaims the housewife who reads Ines S. MacCaulay's entertaining remarks about the meals our great-grandparents cooked—and ate. In this day of dieting, the facts about food she has gleaned from the yellowed pages of letters and diaries of a century ago may be no less than startling to you.

◆ The Problem of Anemia

Dr. George Baehr explains everything the layman needs to know about anemia, including the three ways in which it is caused and what can be done for anemia today. His discussion of the two types of deficiency anemia will prove unusually interesting.

And these are not all of the good things HYGEIA has to offer next month! But they will give you an idea of what you will miss if you don't read it. Send in your subscription now so you will get this issue. The regular subscription price is $2.50 a year. But the special offer to new subscribers will bring it to you for the next six months for only $1.00. Use the coupon—and mail it *today!*

Introductory 6 Months of HYGEIA, $1

AMERICAN MEDICAL ASSOCIATION H-11-34
535 North Dearborn Street, Chicago

Enclosed is $1.00 for an introductory 6 months' subscription to HYGEIA, the Health Magazine. I am a new subscriber.

Name.....

Address.....

PREVENTION OF BLINDNESS RULES ARE SIMPLE

Among interesting projects for the prevention of blindness is an informative poster issued recently by the Junior Section of the Indian Red Cross Society. The poster, which is entitled "The Prevention of Blindness: Protect Your Eyesight," bears the following rules for eye safety:

1. Keep your hands and face clean. Wash them thoroughly with soap and clean water at least twice daily.

2. Protect your eyes from dust and flies.

3. Do not use a towel or cloth or an eye rod which have been used by other persons.

4. See that your daily diet contains either one chatak of butter, or plenty of fresh boiled but not overboiled milk or tomatoes or green leafy vegetables.

5. If your eyes are red or if a discharge comes from them, consult a qualified doctor without delay.

6. If your eyes are sore, you may put a few drops of pure castor oil into them after washing them with clean water or boric lotion.

7. Avoid quacks, as they often damage the eyes by use of dangerous and irritant remedies or dirty instruments.

8. If your eyesight is failing, consult a qualified eye doctor at once.

9. Those suffering from syphilis or gonorrhea should obtain regular treatment by a qualified doctor till completely cured. They should not marry until the doctor approves.

10. See that the midwife puts a few drops of 1 per cent silver nitrate solution into baby's eyes at birth.

11. Get vaccinated and revaccinated every seven years and also when smallpox breaks out in the locality.

12. Don't play dangerous games with sticks, stones, etc. Fireworks are always a source of danger.

13. Use goggles as protection against glare and dust and to avoid accidents in dangerous trades and amusements.

14. An expectant mother should consult a woman doctor before her delivery.

15. Read in a good light coming from behind and over one shoulder.

16. Don't hold your book too close to your eyes. It should be at least 13 inches away.

A wise man would rather preserve peace than gain a victory.

—*Colton.*

TALLER! HEAVIER!

Children protected against simple goiter are found to be superior in development

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

IODINE, by protecting children from simple goiter, exerts a remarkably beneficial effect on growth.

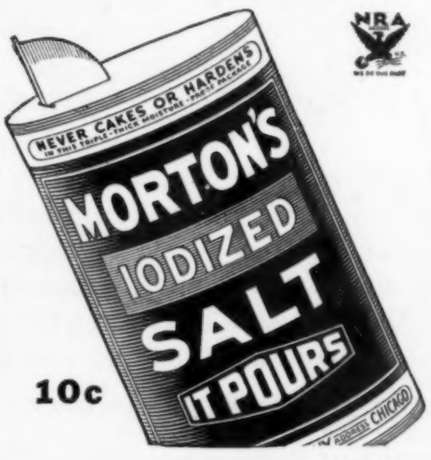
This was demonstrated by Dr. Percy Stocks, of a famous university, who compared the heights and weights of a large number of 12-year-old youngsters who had been taking iodine regularly with those of an equal number of 12-year-olds who had not.

He found that those who had been receiving iodine averaged almost 2 inches taller and about 8 pounds heavier than those who had received no iodine. Thus proving the wisdom of protecting children from the growth-hampering effects of simple goiter!

If you want *your* children to escape being handicapped by this disorder, begin to use Morton's Iodized Salt *at once!* It is neither a drug nor medicine, but just a pure white table salt to which has been added sufficient iodine to prevent simple goiter.

The fact that Morton's Iodized Salt has been accepted by the American Medical Association's Committee on Foods is ample assurance of its reliability. Get it today and use it regularly, both on the table and in cooking.

WHEN IT RAINS IT POURS



TOOTH-DRAWING WAS ONCE DESPISED PROFESSION

That the surgeon and the tooth-drawer were regarded as lowly shedders of blood in medieval days is demonstrated by a writer in *The Journal of the American Dental Association.* Thomas Gale, writing in the fifteenth century, is quoted as saying of surgery, "Few that have well brought up their son will put him to the art, it is now so beggarly and vile." In 1163, Pope Alexander the Third forbade the clergy to interfere in matters of surgery or to engage in any works which involved the shedding of blood.

It may have been a combination of the prohibitions, with added fear of the person who would deprive another of his vitality or even of his immortality, which bred a distrust of the tooth-drawer in the minds of the people. As the office of the executioner or hangman is so abhored that few self respecting citizens today will think of entering such a walk of life, so it was with the early tooth-drawer who was often called on to extract teeth as a punishment for crime.

Apart from the reference of Herodotus to specialists for the teeth in Egypt, and the mention by Martial of Cascellius as an extractor of aching teeth in Rome, there is little to suggest that tooth-drawers were numerous in the early centuries. That disease of the teeth existed is obvious, but the first mention of such a calling as tooth-drawing, apart from barbery and surgery, is to be found in the fourteenth century manuscript of Guy de Chauliac, in which he speaks of "dentatores."

The first illustration of a tooth-drawer is also in a fourteenth century manuscript in the British Museum. The tooth-dawer is using an enormous forceps to which he is applying both hands, but his most conspicuous feature is his necklace of teeth.

IN THE SWIM

It is advisable for swimmers not to depend too much either on inflated playthings or inflated vanity. Overestimating one's swimming ability has caused many accidents. . . . Good swimmers know a variety of strokes, so that they do not tire easily. However, one stroke to avoid at the beach is the old-fashioned sunstroke. The medical name for this is siriasis, which sounds as if it might mean "very serious" in Latin or something.

—*Safety Education.*

The ONLY food known to contain this

LAXATIVE (active) AGENT

Once it was thought the *bulk* of prunes was the reason for their aid in combating constipation.

Now Science has discovered an *active agent* (Nature's own) known to be present in effective quantity in prunes, but in *no other* fruit or food.* This is *in addition* to the non-irritating bulk of prunes. So they aid in *two* ways.

Consider the other nutritional benefits provided by California Prunes, too: Vitamins A, B and G; essential minerals including iron; natural fruit sugars, and an excess of alkaline over acid minerals.

Delicious California Prunes represent *maximum food value for your money*—eat them regularly because they're good and for the good they *do*.

United Prune Growers of California
Dept. 11-HY-4, 343 Sansome St., San Francisco

*(active) in all *prune dishes, and in prune juice, as well as in stewed prunes. Send for* FREE *recipe book describing many new, easy-to-prepare ways of serving delicious California Prunes.*

Chewing gum is good for children—

EVERY child is entitled to a fair start. That is why dental health is necessary. During the entire period of childhood from kindergarten up, jaws are developing and new teeth taking their places in the jaws. Chewing gum assists Nature in its job to supply blood to new teeth and also aids the jaws in their normal development. But the chewing must be consistently done Every Day. There is a Reason, a Time and a Place for chewing gum.

THE NATIONAL ASSOCIATION OF CHEWING GUM MANUFACTURERS

Four Factors that Help Teeth Last a Lifetime Are: Proper Nutrition, Dentist's Care, Personal Care and Plenty of Chewing Exercise

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